

IMP 7 (EXPLORER 47) TRAJECTORY
SEPTEMBER 26, 1972 TO SEPTEMBER 25, 1978

by

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CSR-TR-88-3

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This report contains trajectory plots for IMP-7 (Explorer 47). For each orbit the trajectory is shown in five panels on two pages; each panel is a different representation or projection. The trajectory parameters were obtained from the multi-coordinate ephemeris (MCE) tapes supplied to IMP experimenters by the IMP project.

The plots on the right hand pages use a geocentric, solar-ecliptic coordinate system (the XSE-axis points towards the Sun; the YSE-axis is in the ecliptic plane oppositely directed to the motion of the earth in its orbit; and the ZSE-axis completes the right-handed coordinate system). Distances are in units of Earth radii (6371 km). The upper panel shows the trajectory in cylindrical coordinates. The Sun-Earth line is the axis of the cylinder and one would expect the earth's bow shock and magnetopause to be roughly symmetric about that axis (neglecting aberration of the flow). Average shock and magnetopause shapes¹ are shown on the plot to give a sense of the region which the spacecraft is traversing. The moon's position is also shown in the upper panel of most of the plots; the orbit of the moon clearly is badly distorted on the remaining plots due to bad data on the MCE tapes. Note that the node number may also be incorrect.

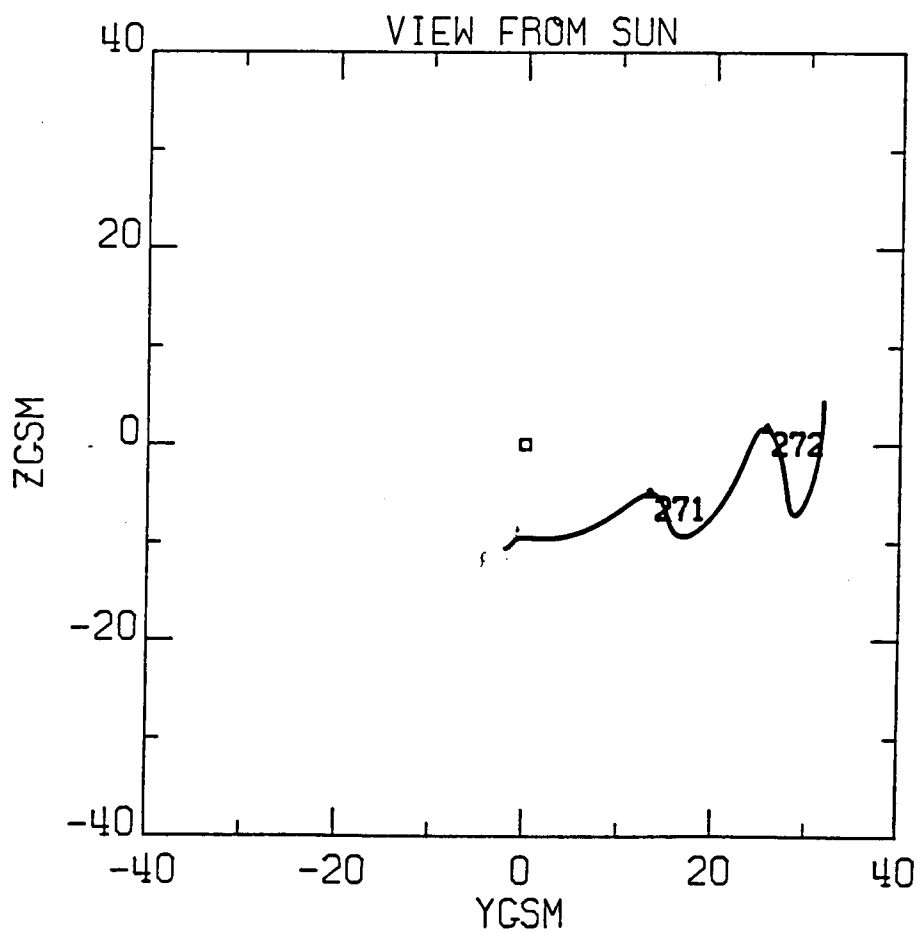
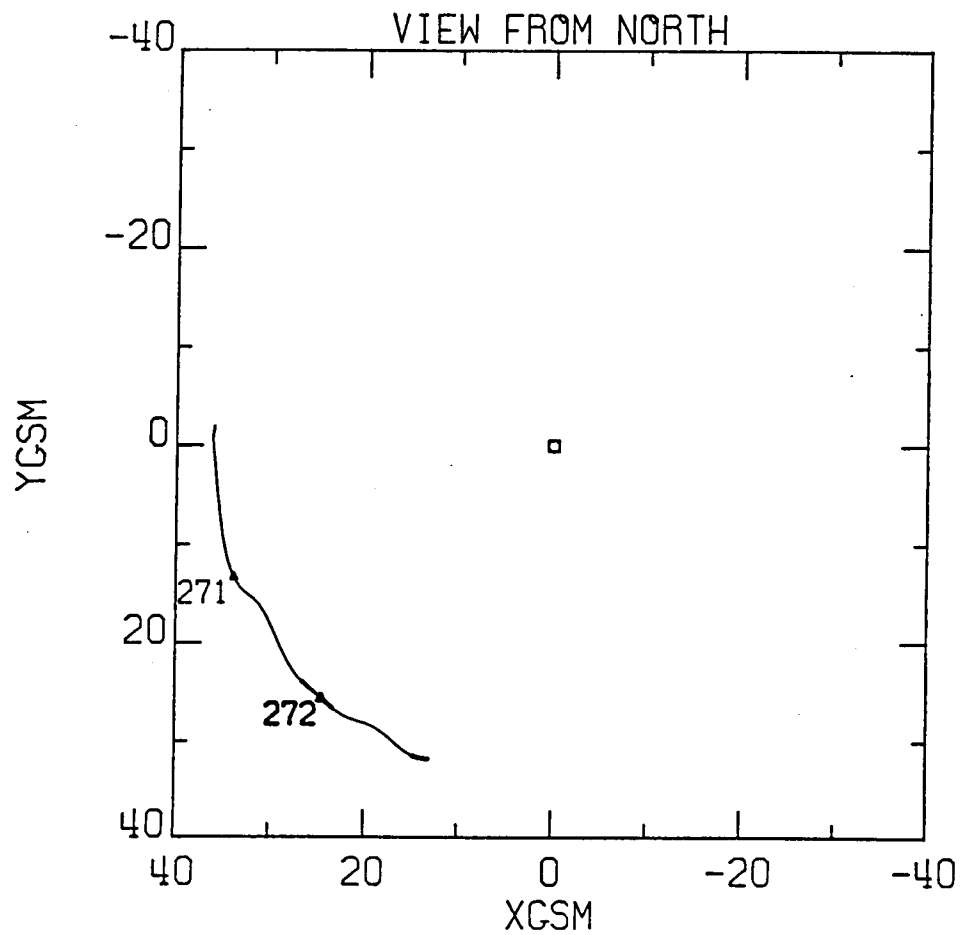
The plots on the left-hand pages use geocentric, solar magnetospheric coordinates with distances in Earth radii (the XGSM-axis points at the sun; the XGSM-ZGSM plane contains the geomagnetic dipole such that ZGSM is positive northward; and the YGSM-axis completes the right-handed coordinate system). Two different weight lines are used; the lighter line corresponds to negative values of ZGSM in the upper panel and to values of XGSM less than -10 in the lower panel.

Time is indicated by a symbol at the beginning of each day; normally the day number for every second day is given. Similar plots of the trajectory have been distributed by King and Teague.²

¹Model shock and magnetopause are taken from, "Explorer 33 and 35 Plasma observations of Magnetosheath Flow," H. C. Howe, Jr., and J. H. Binsack, JGR 77, 3334 (1972), Equations 1 and 2.

²J. H. King and M. J. Teague, Trajectories of Explorer 43, 47 and 50, September 1972-December 1975, GSFC-X-601-76-38.

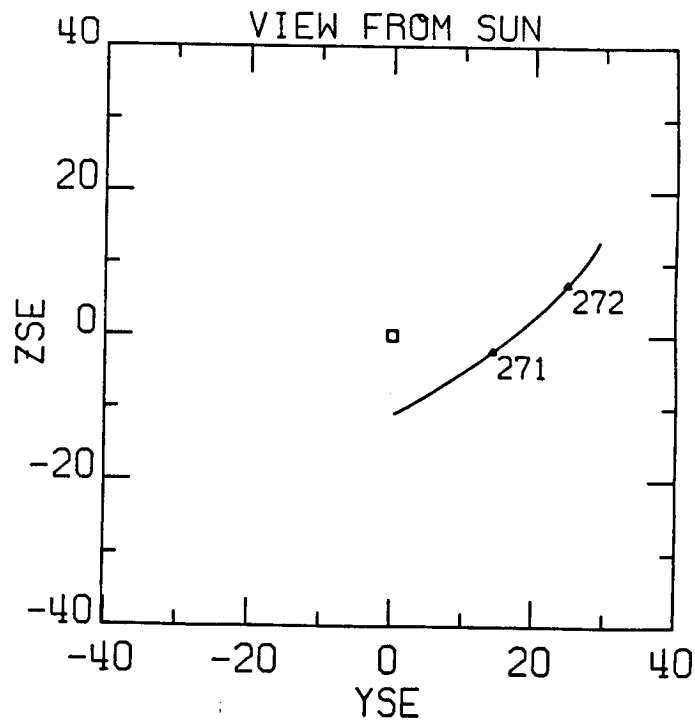
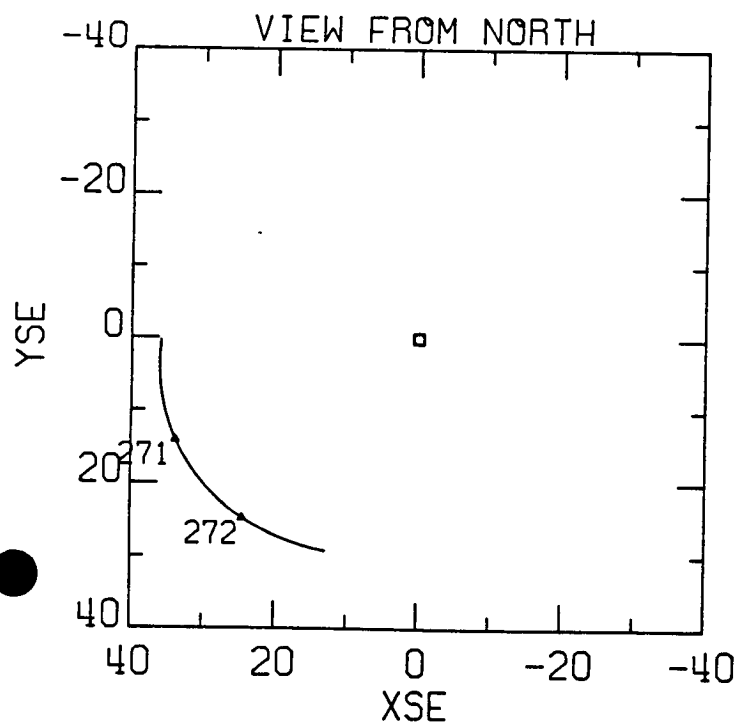
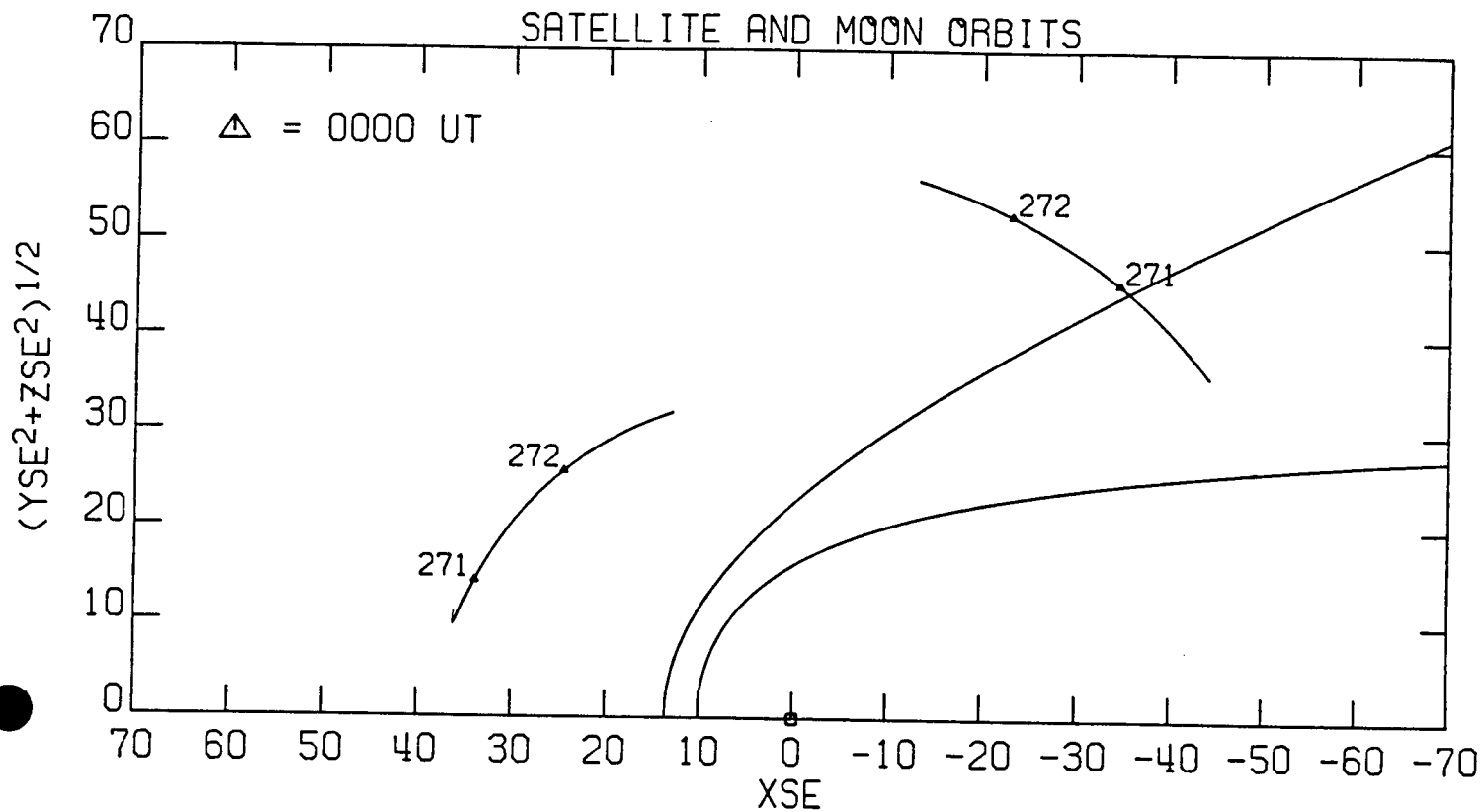
IMP 7 FROM SEP 26 TO SEP 28 1972



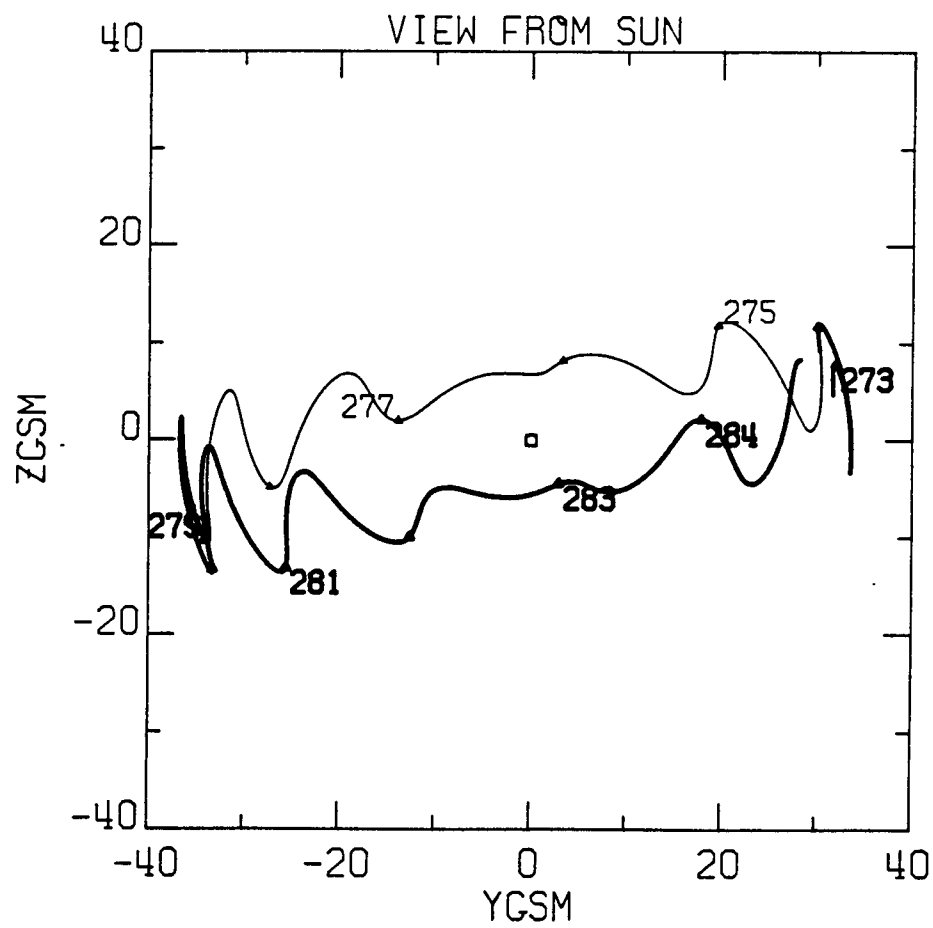
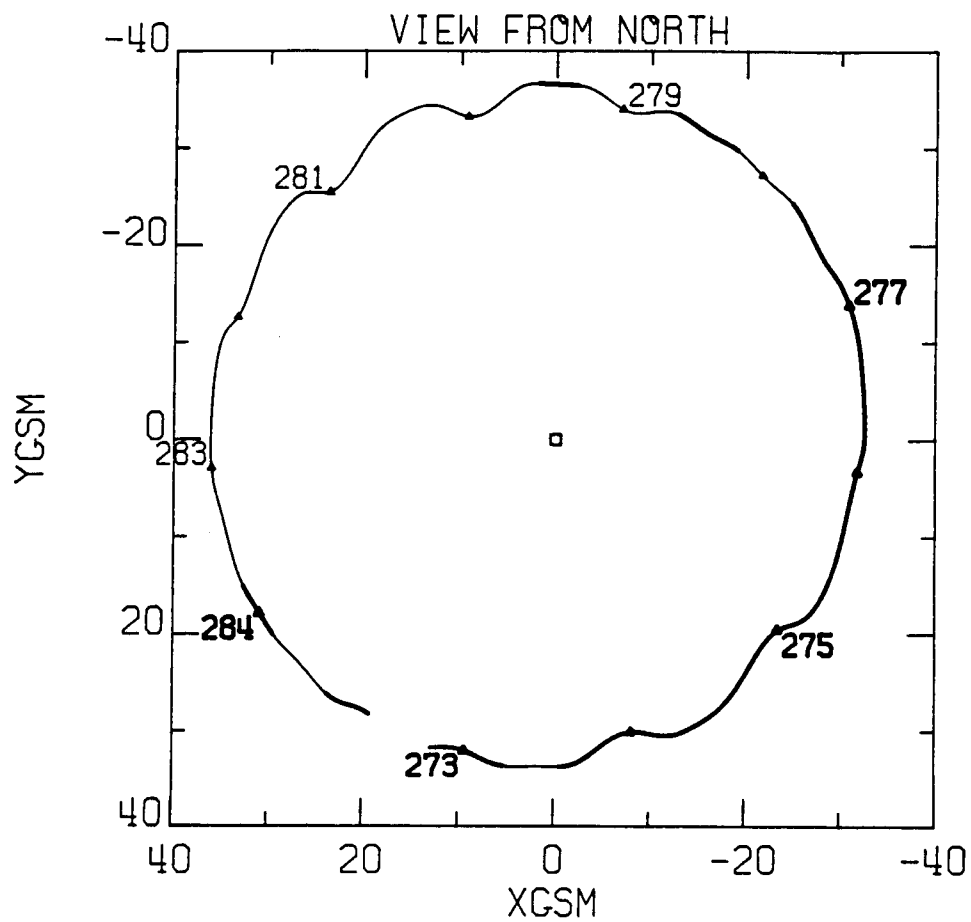
IMP 7 TRAJECTORY. ASCENDING NODE 0

FROM SEP 26 TO SEP 28 1972

DAYS 270 THRU 272



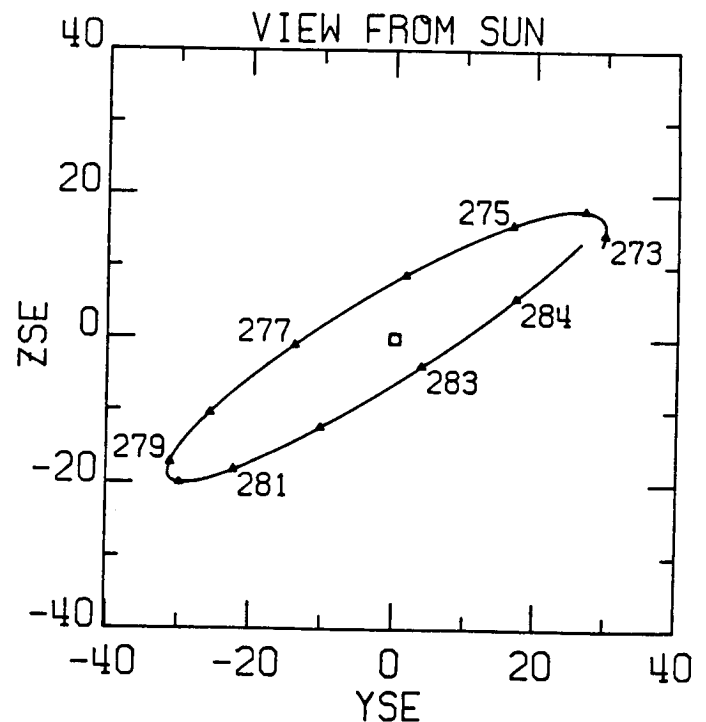
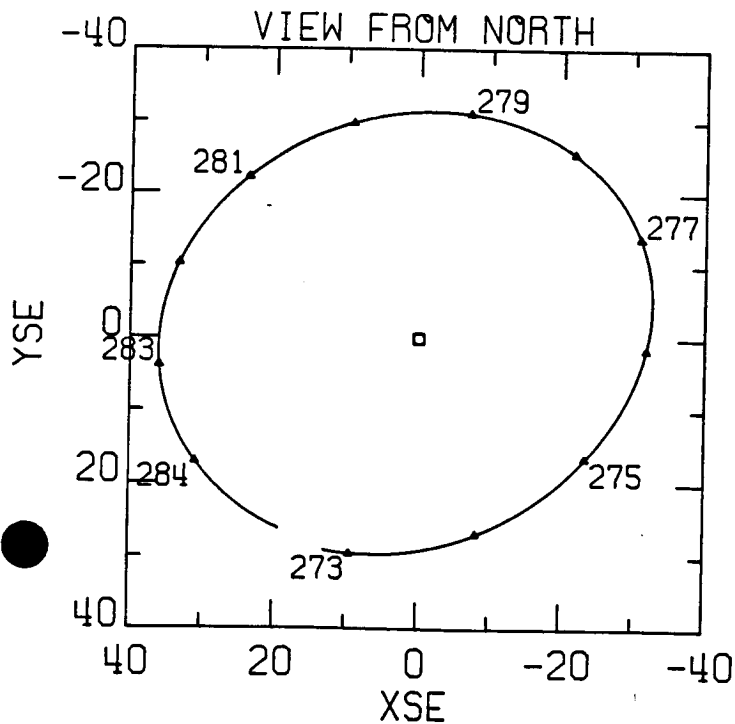
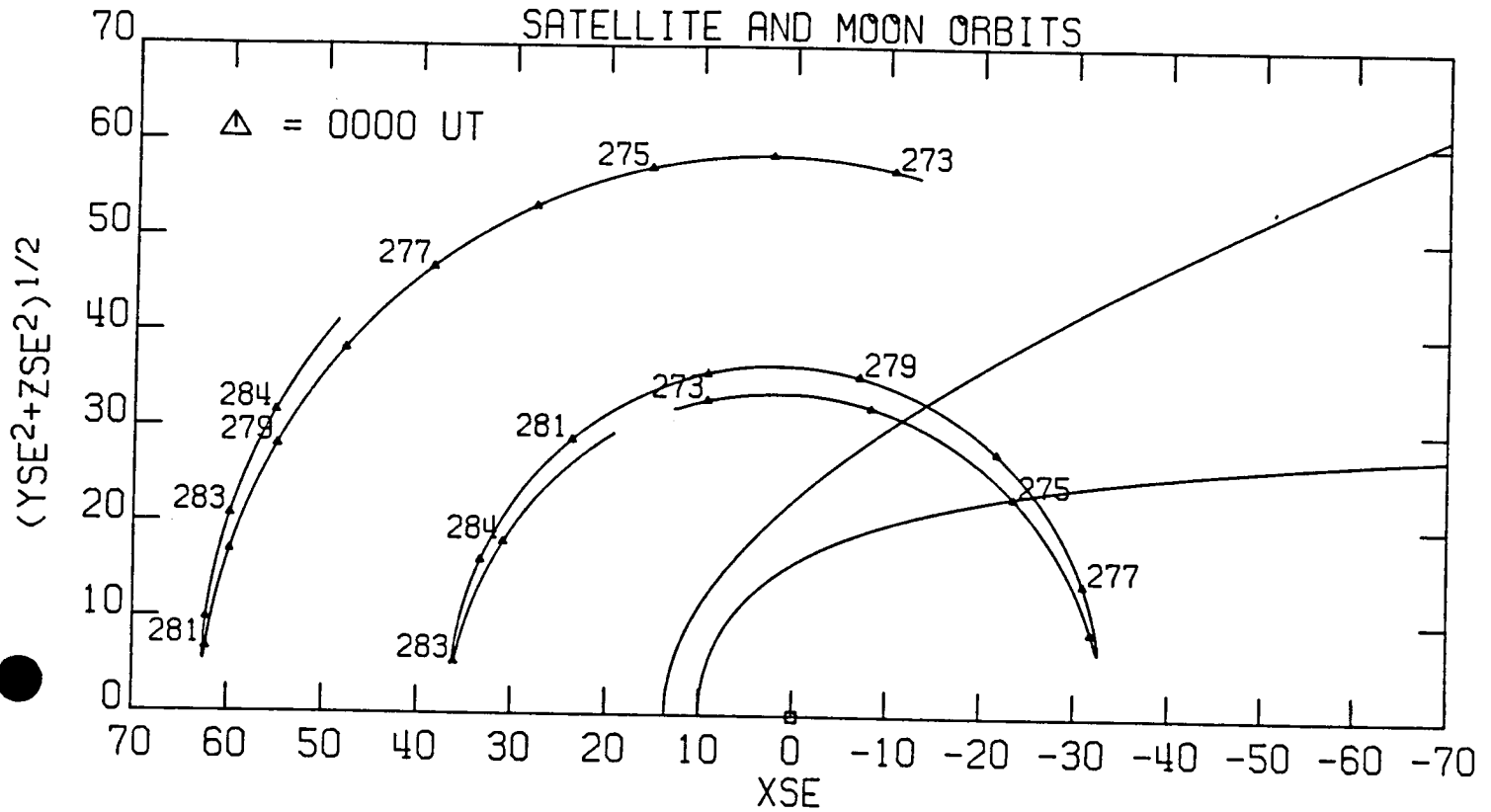
IMP 7 FROM SEP 28 TO OCT 10 1972



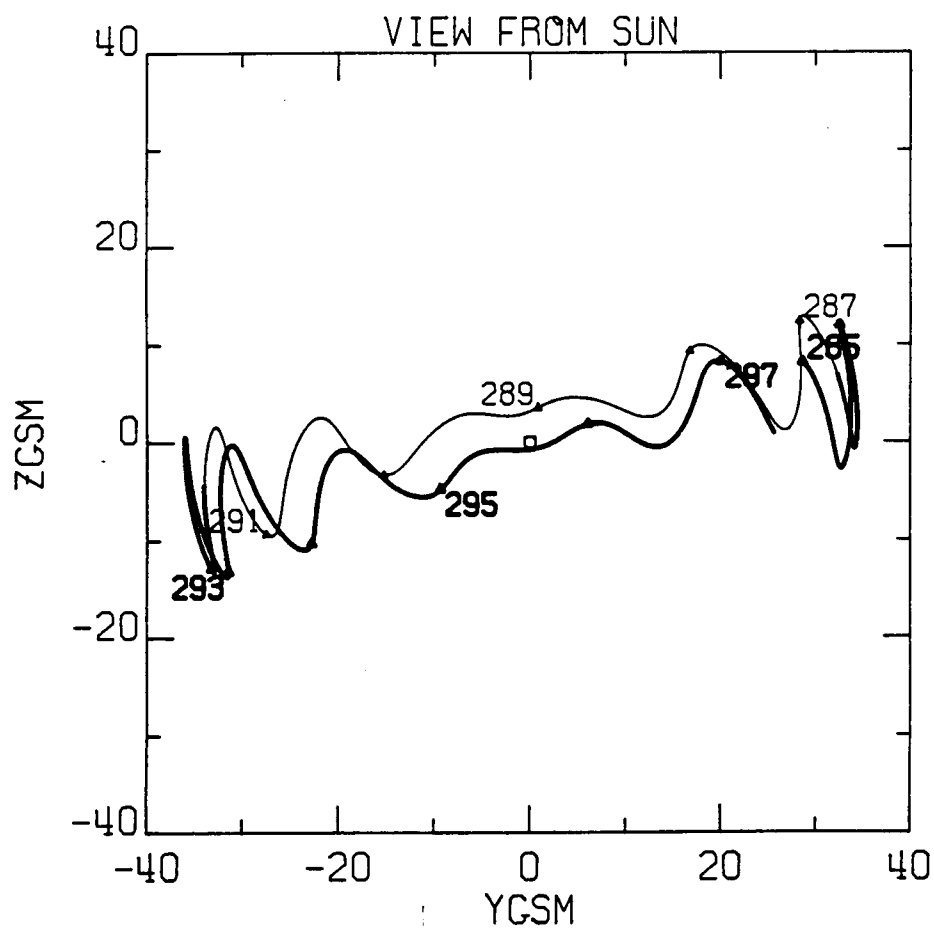
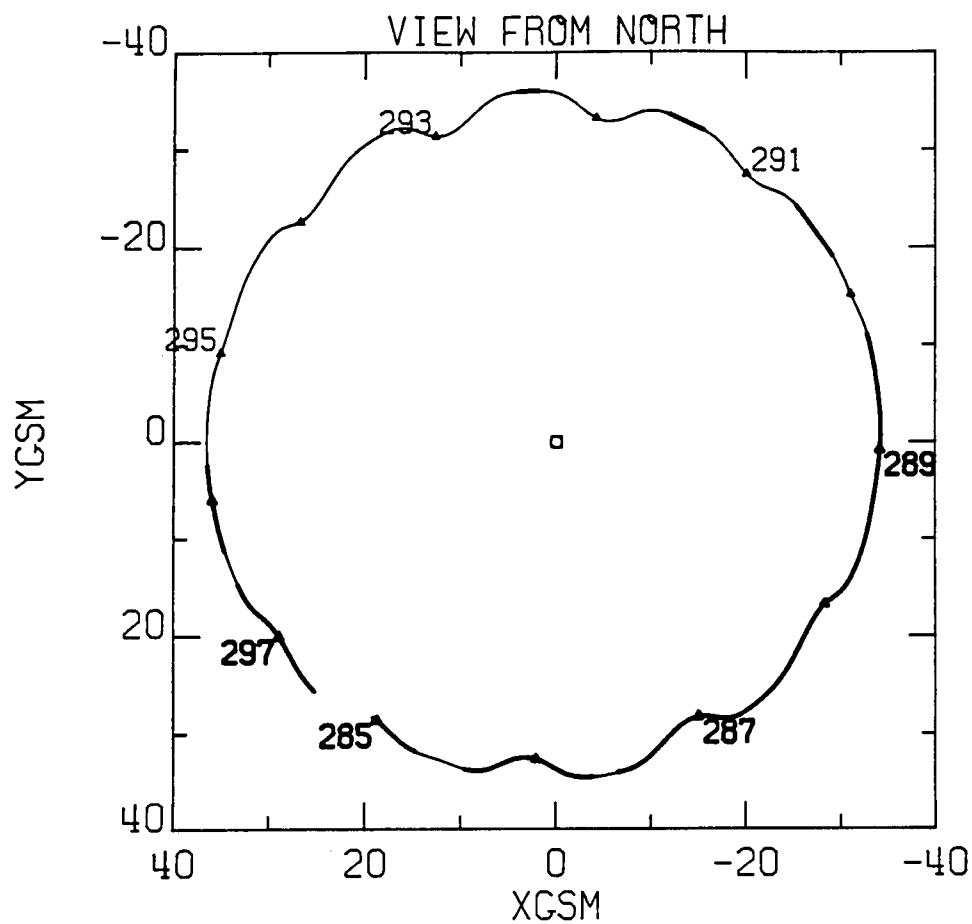
IMP 7 TRAJECTORY. ASCENDING NODE 1

FROM SEP 28 TO OCT 10 1972

DAYS 272 THRU 284



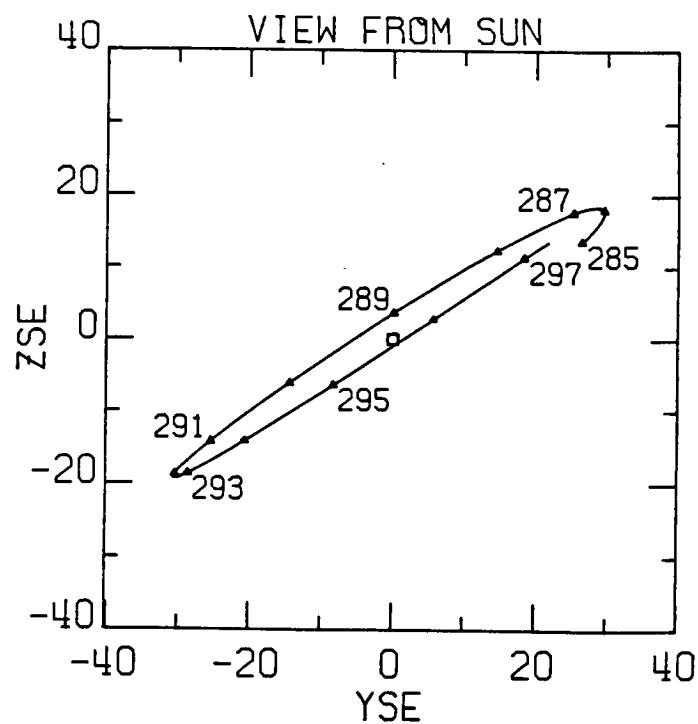
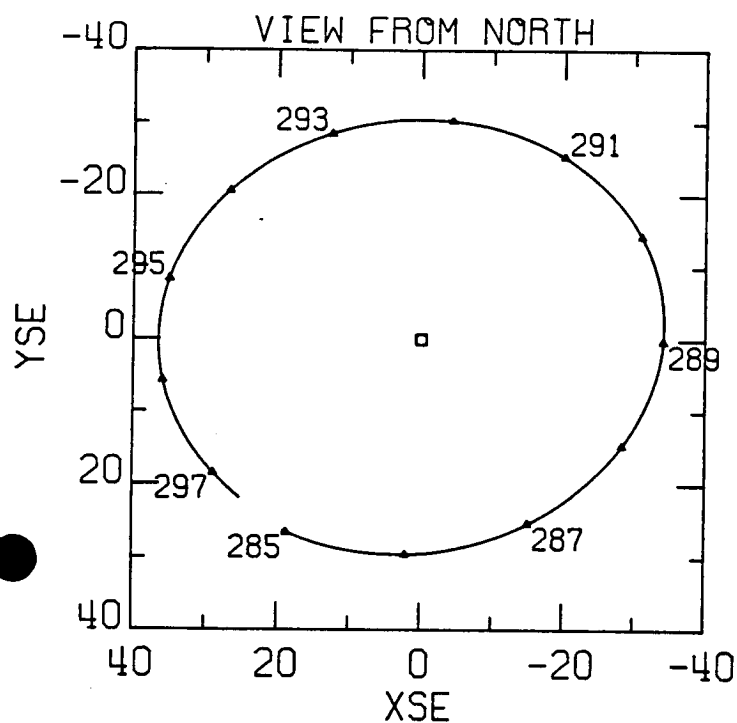
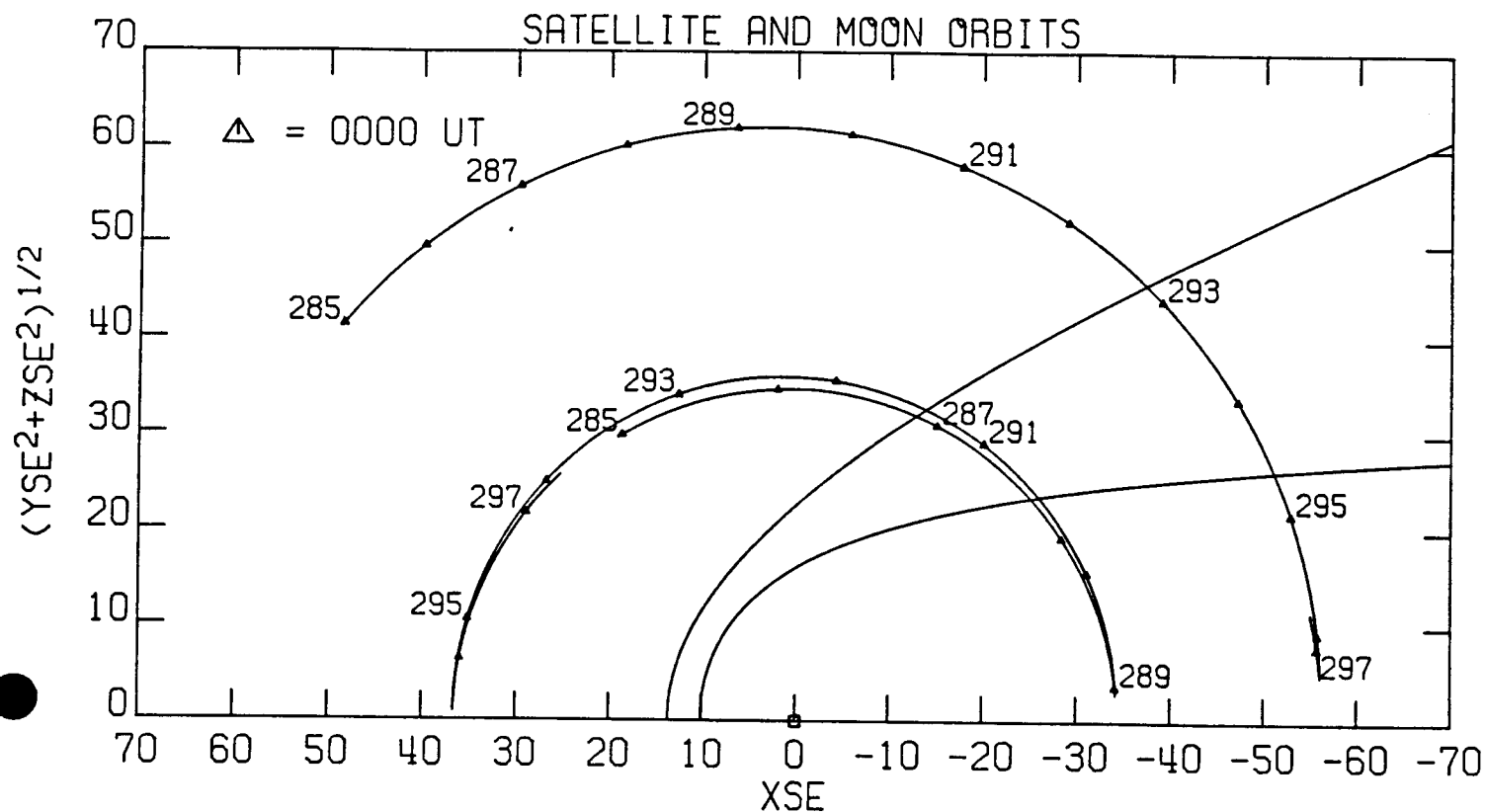
IMP 7 FROM OCT 10 TO OCT 23 1972



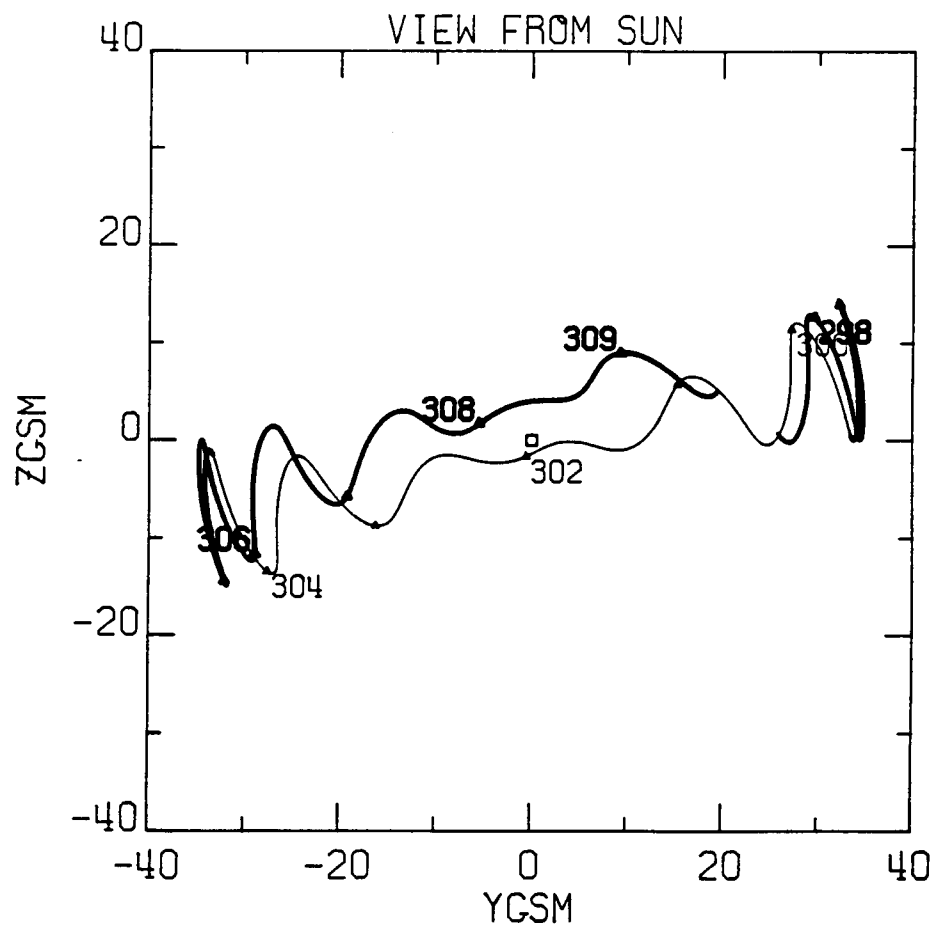
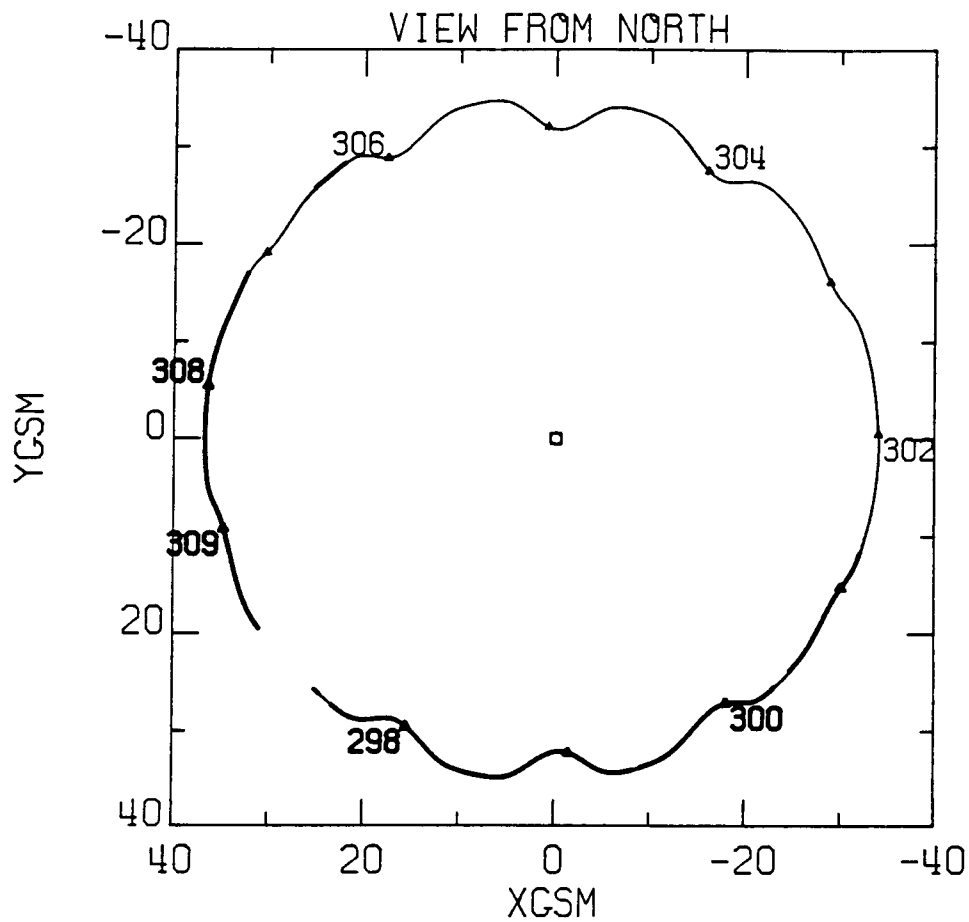
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FROM OCT 10 TO OCT 23 1972

DAYS 284 THRU 297



IMP 7 FROM OCT 23 TO NOV 4 1972

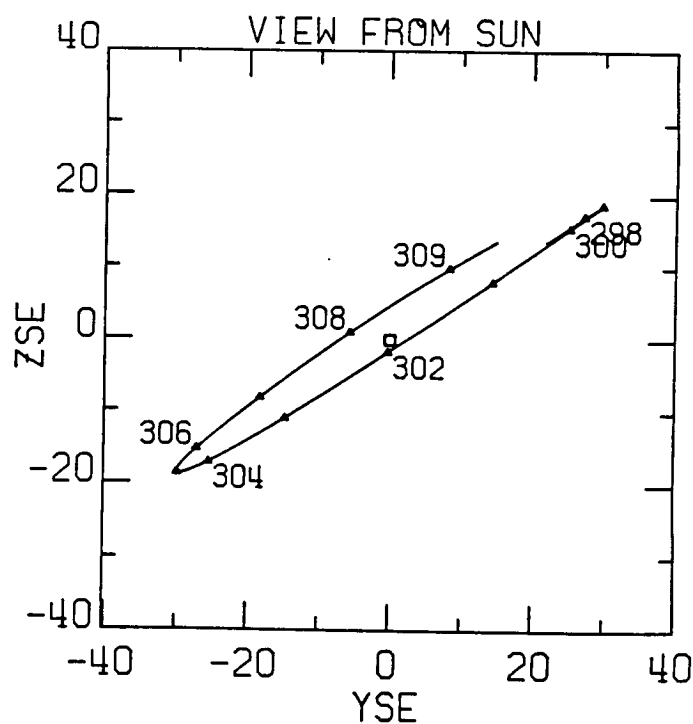
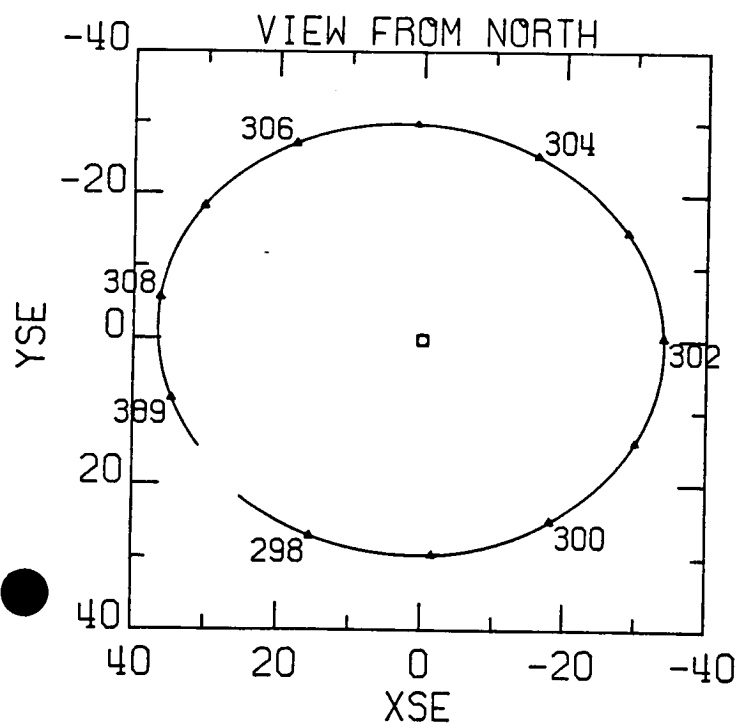
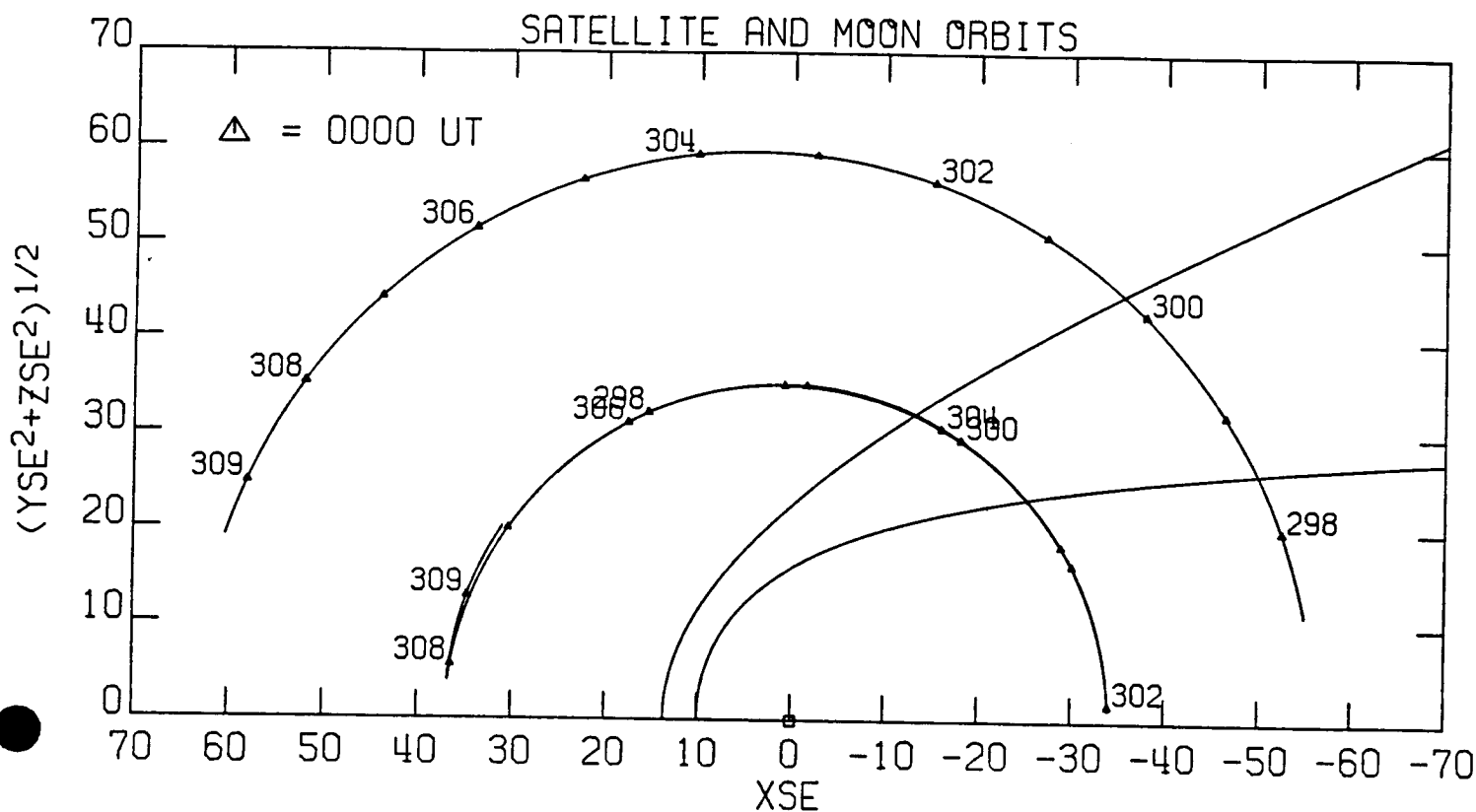


IMP 7 TRAJECTORY.

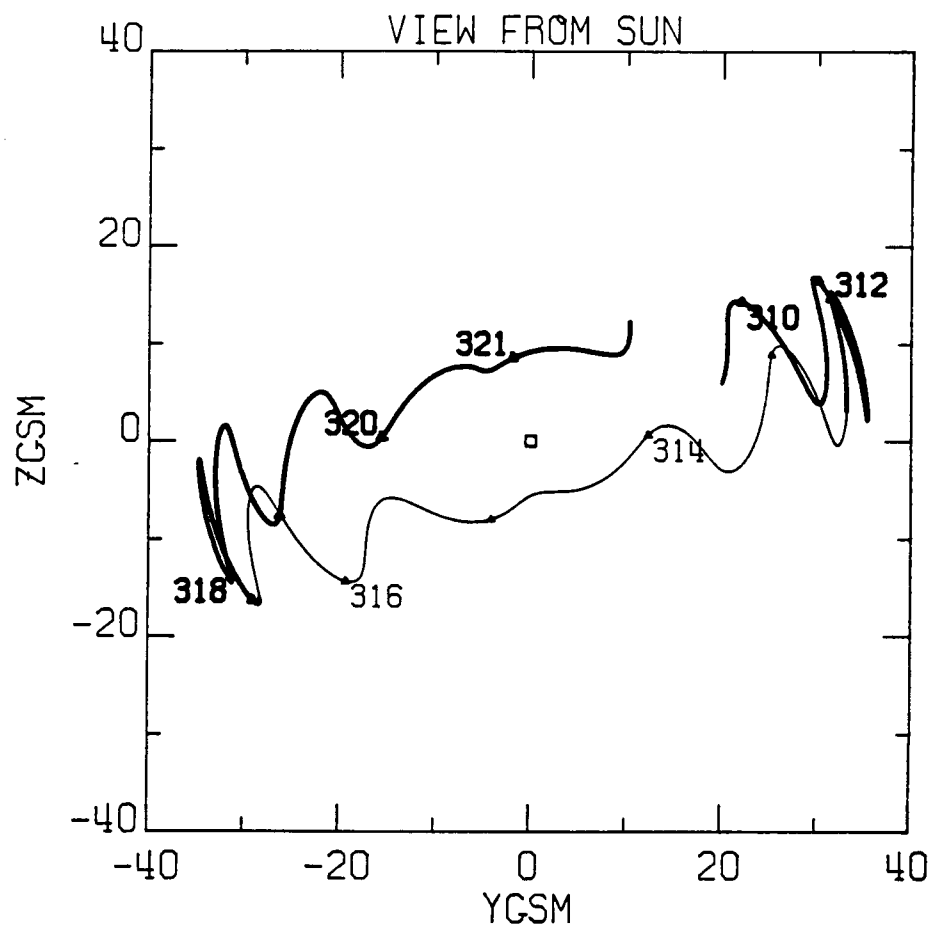
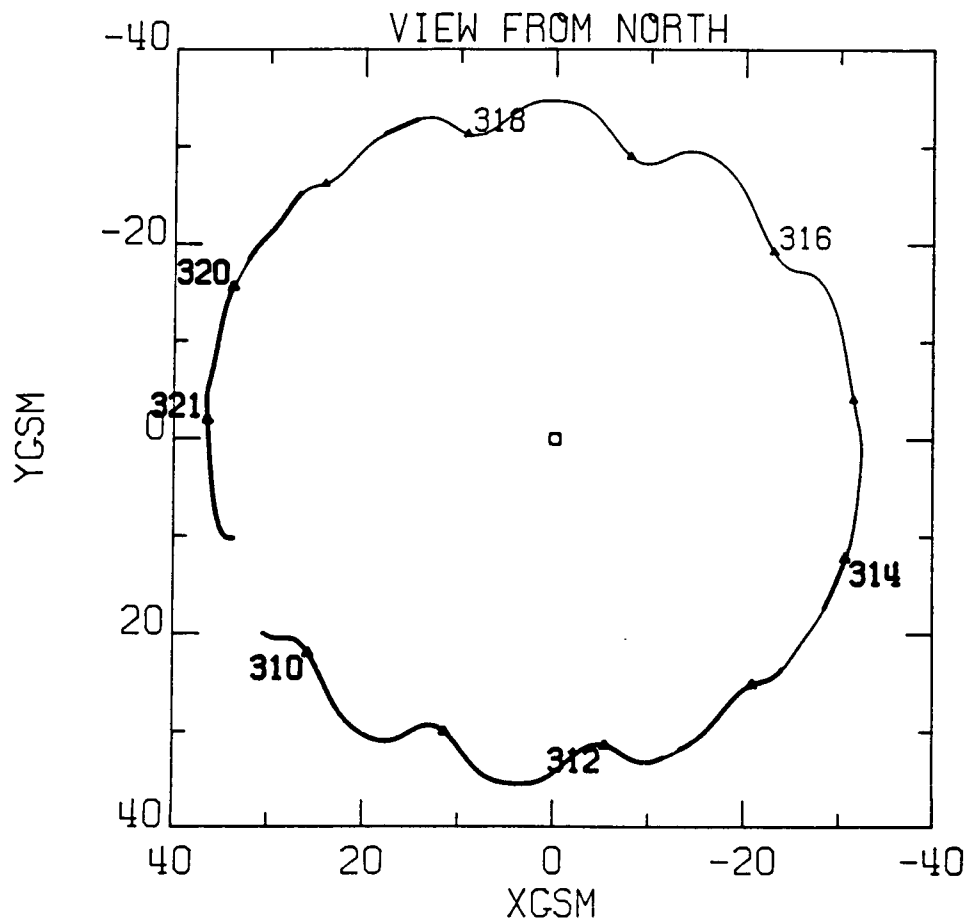
ASCENDING NODE 3

FROM OCT 23 TO NOV 4 1972

DAYS 297 THRU 309



IMP 7 FROM NOV 4 TO NOV 16 1972

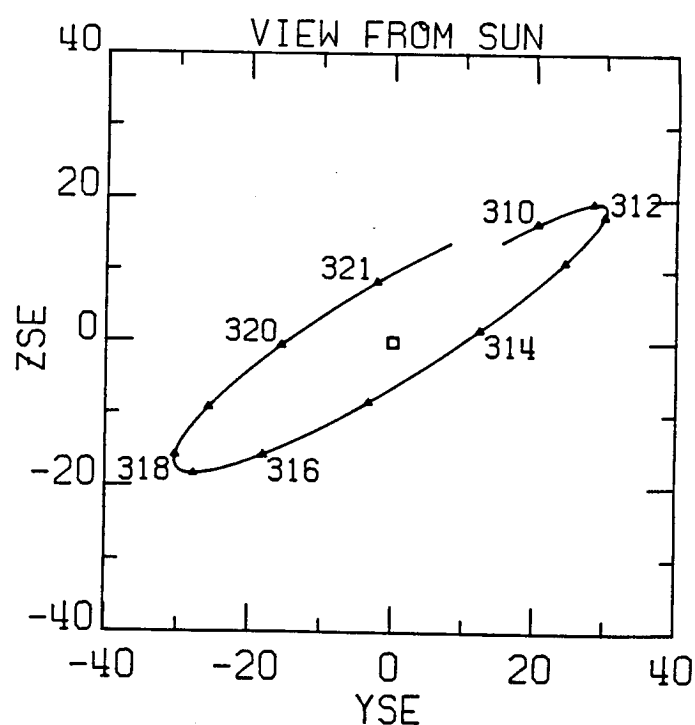
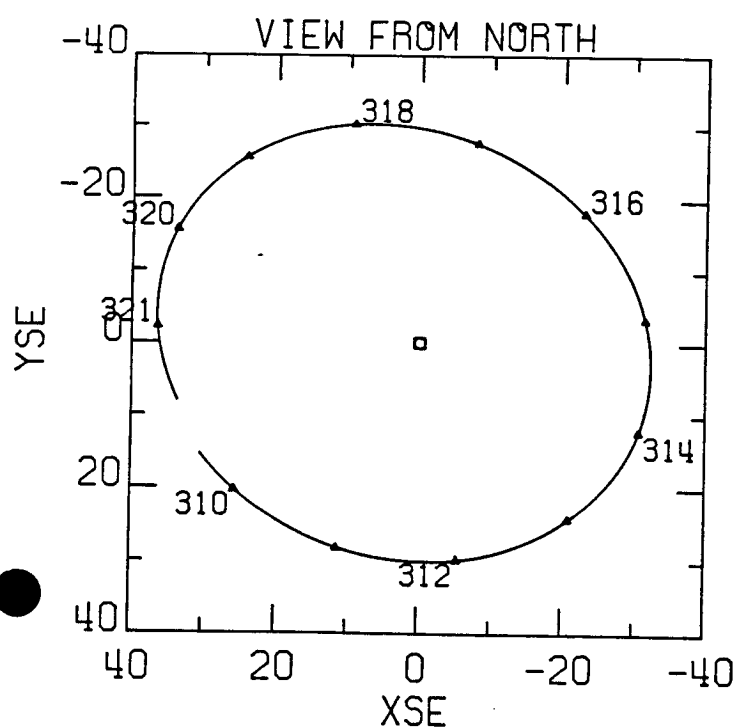
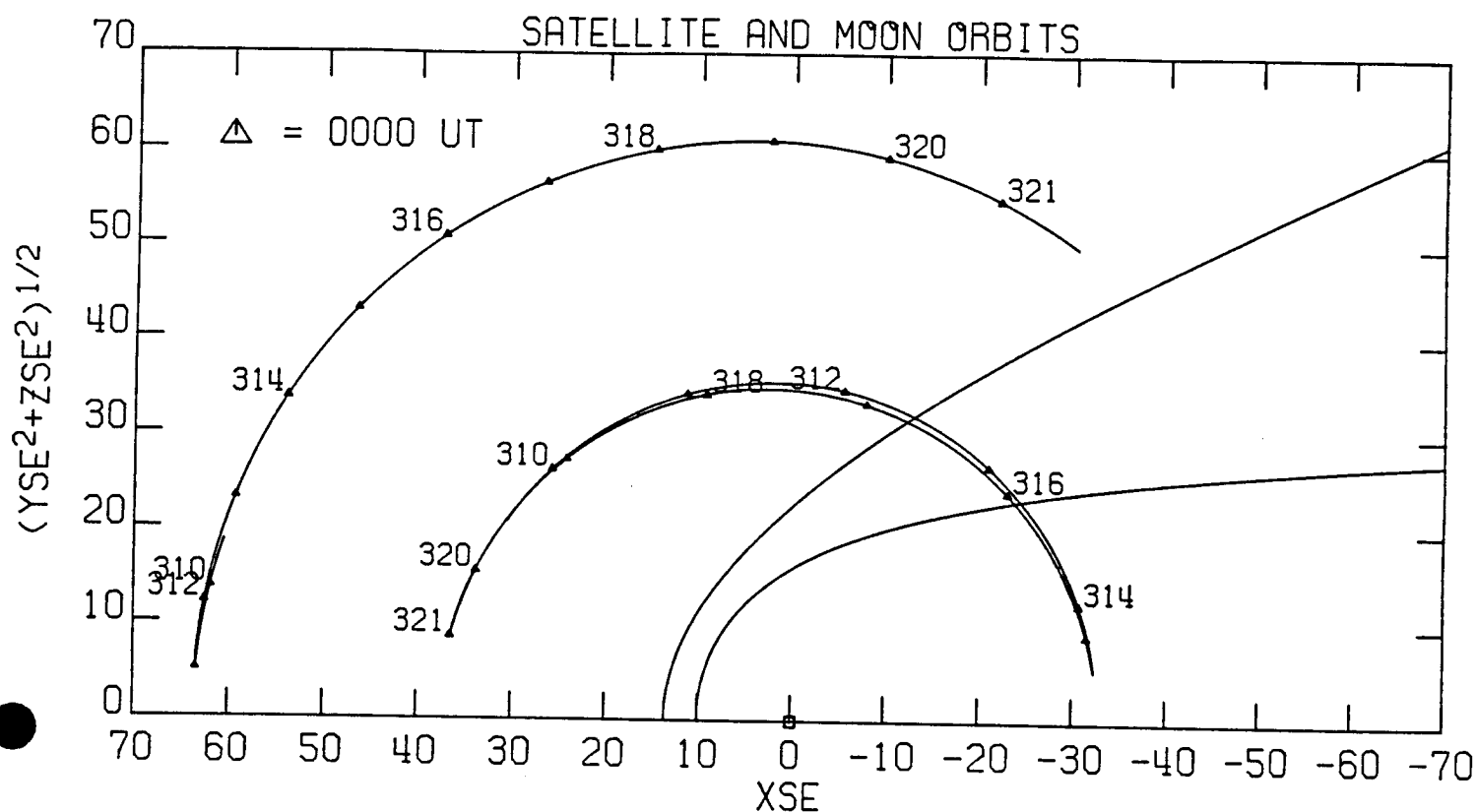


IMP 7 TRAJECTORY.

ASCENDING NODE 4

FROM NOV 4 TO NOV 16 1972

DAYS 309 THRU 321

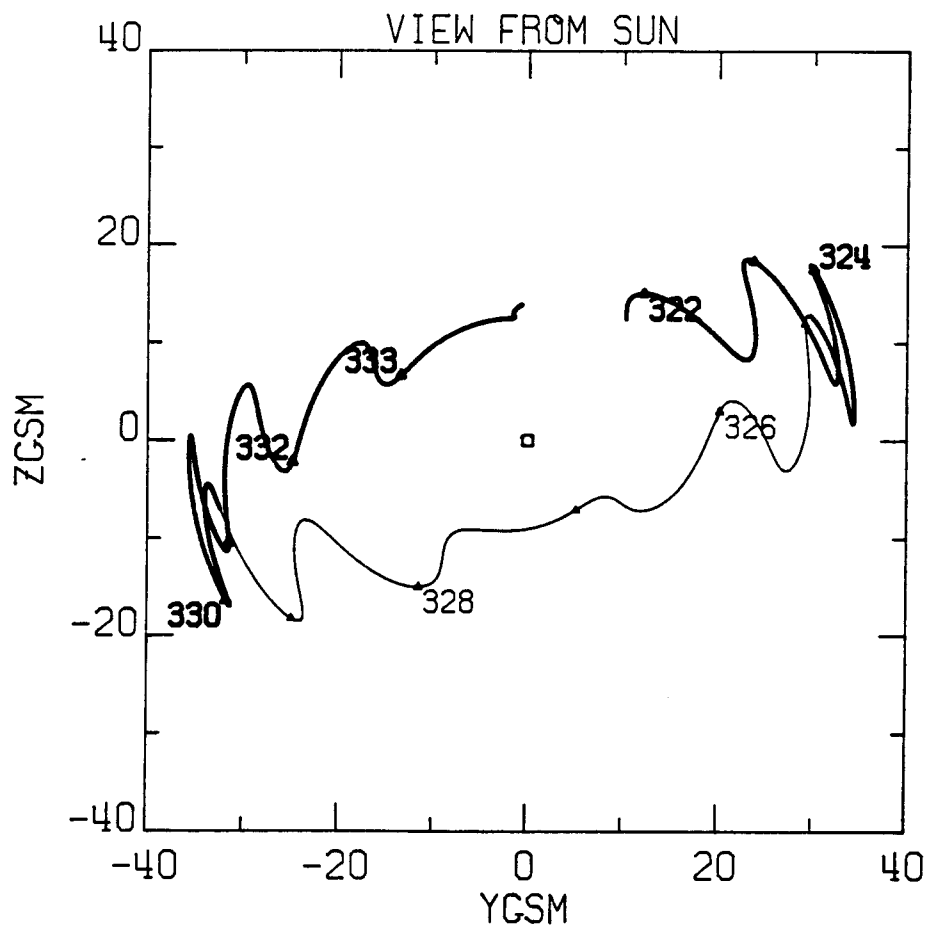
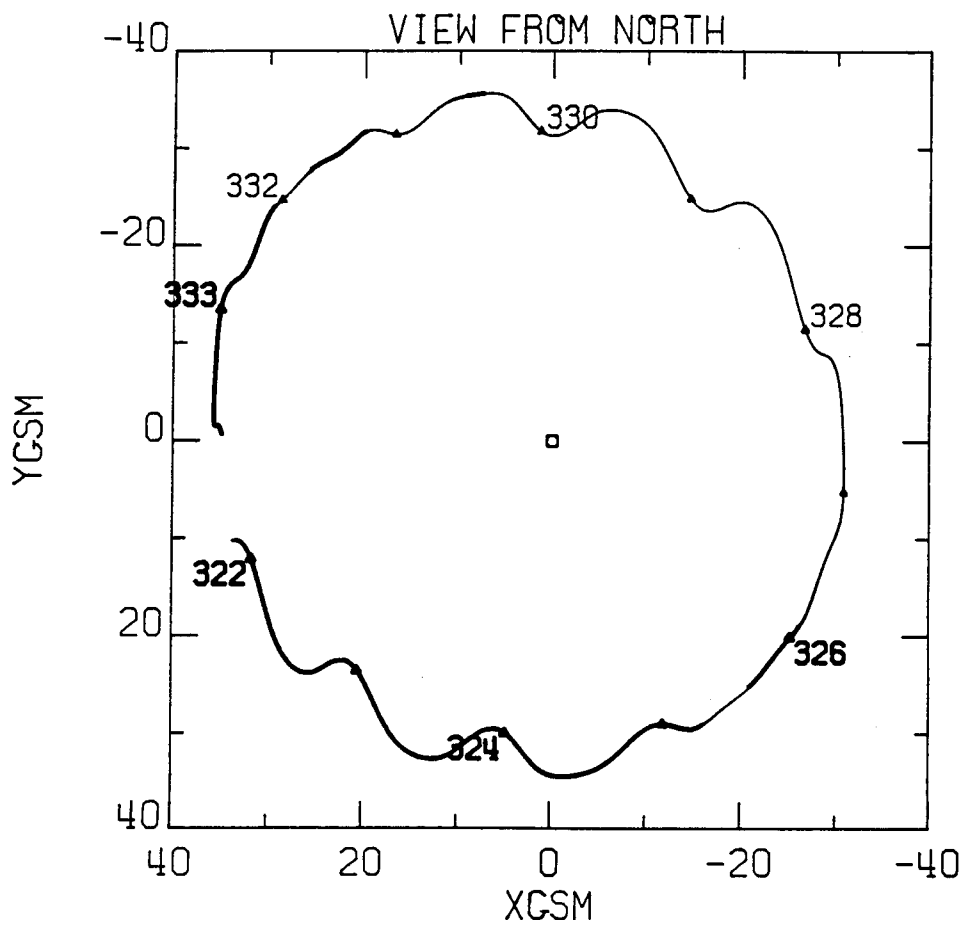


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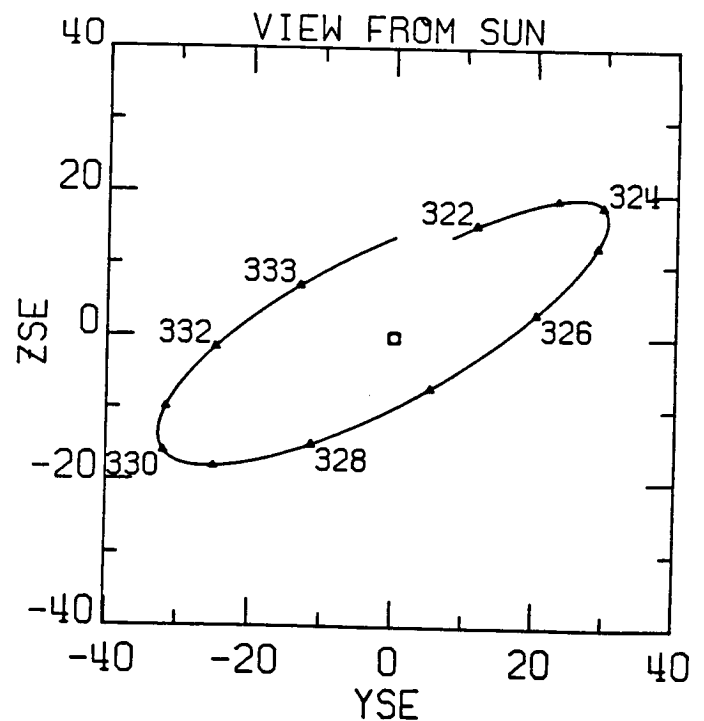
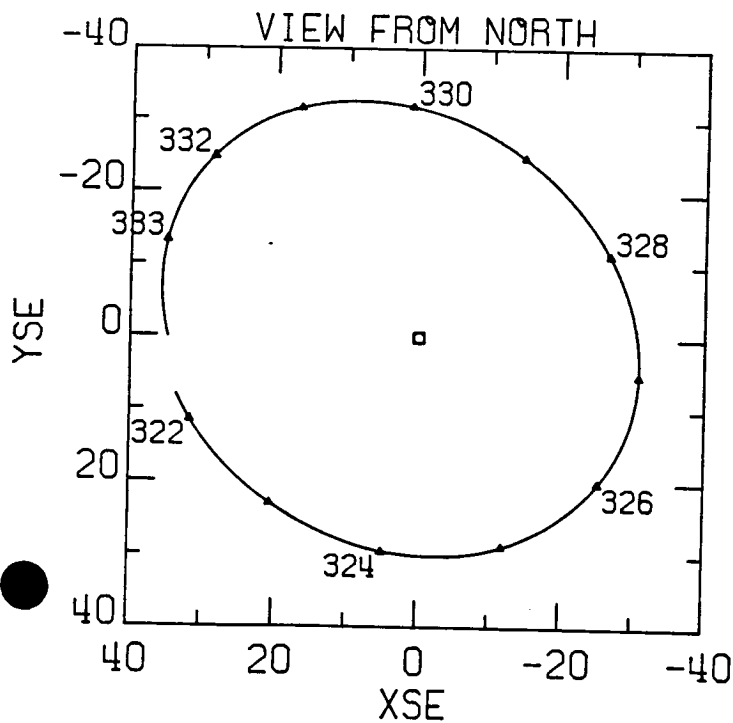
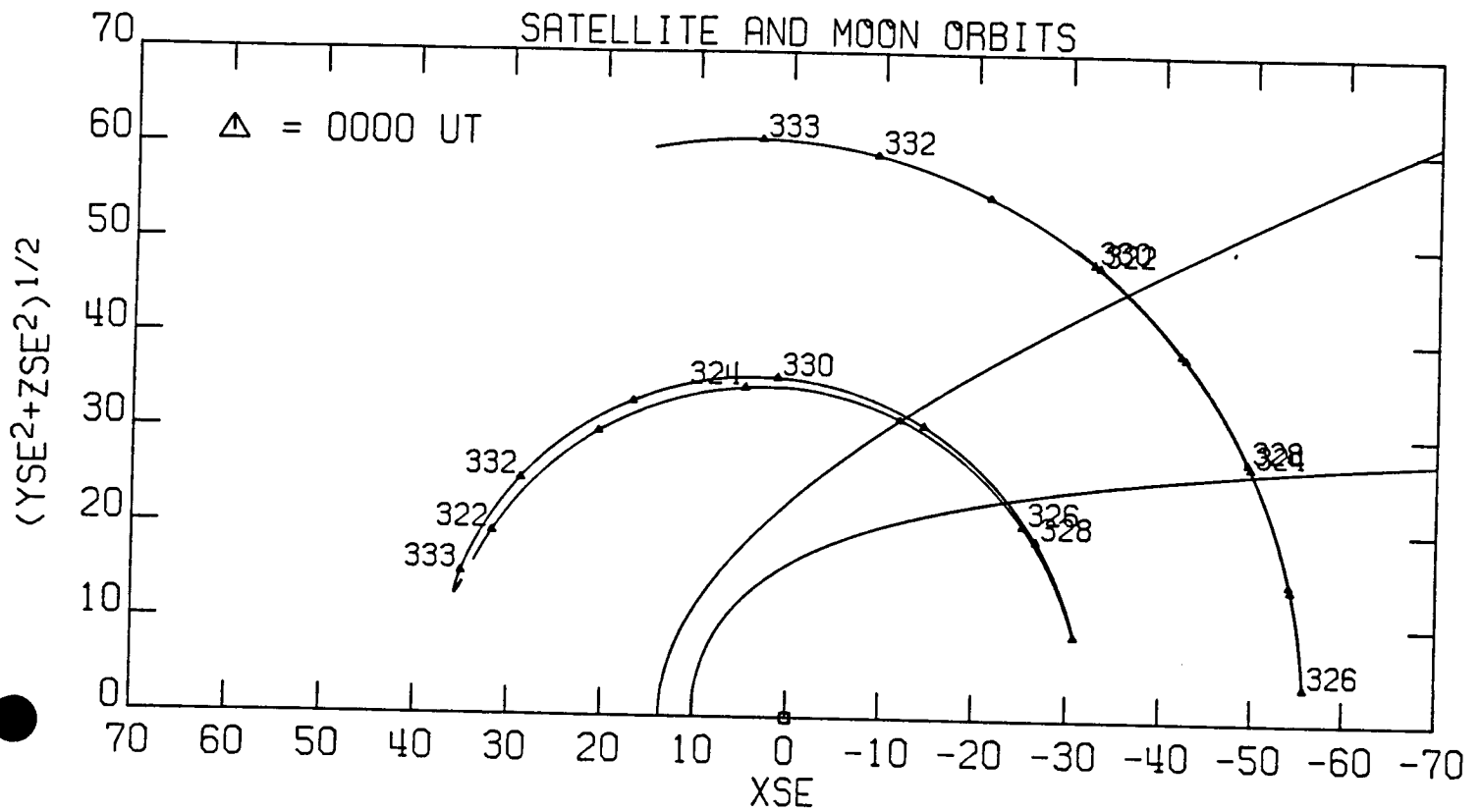
IMP 7 FROM NOV 16 TO NOV 28 1972



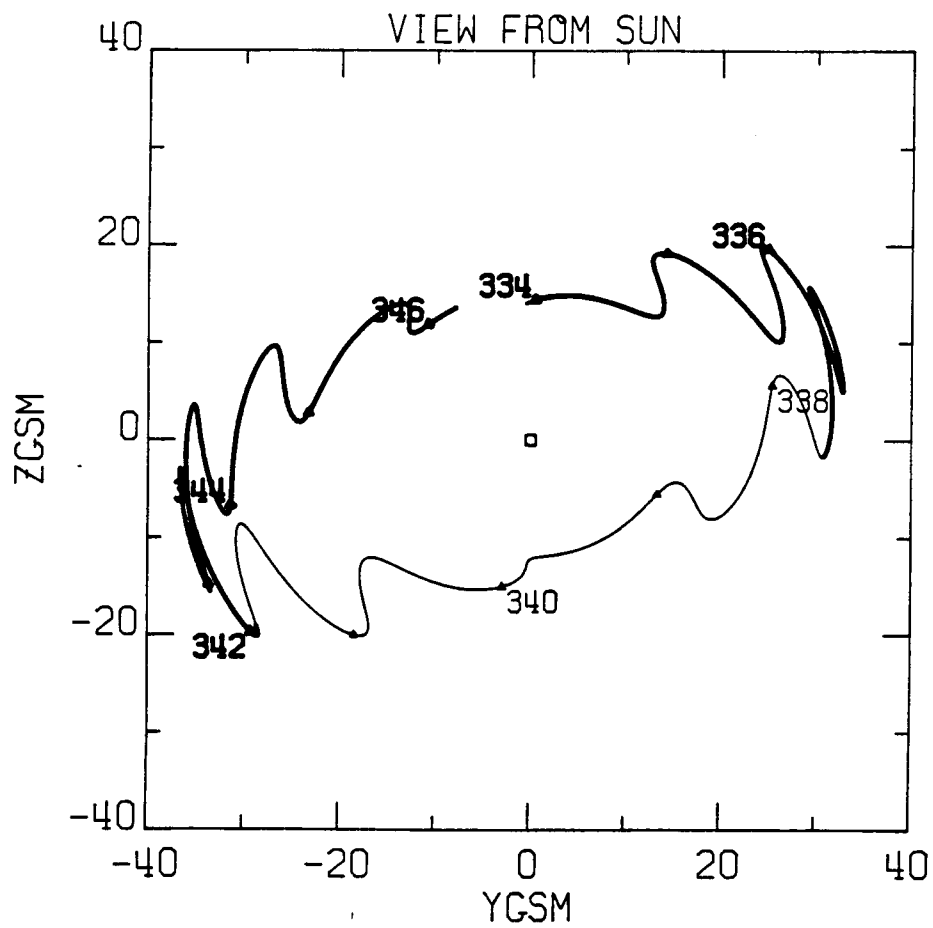
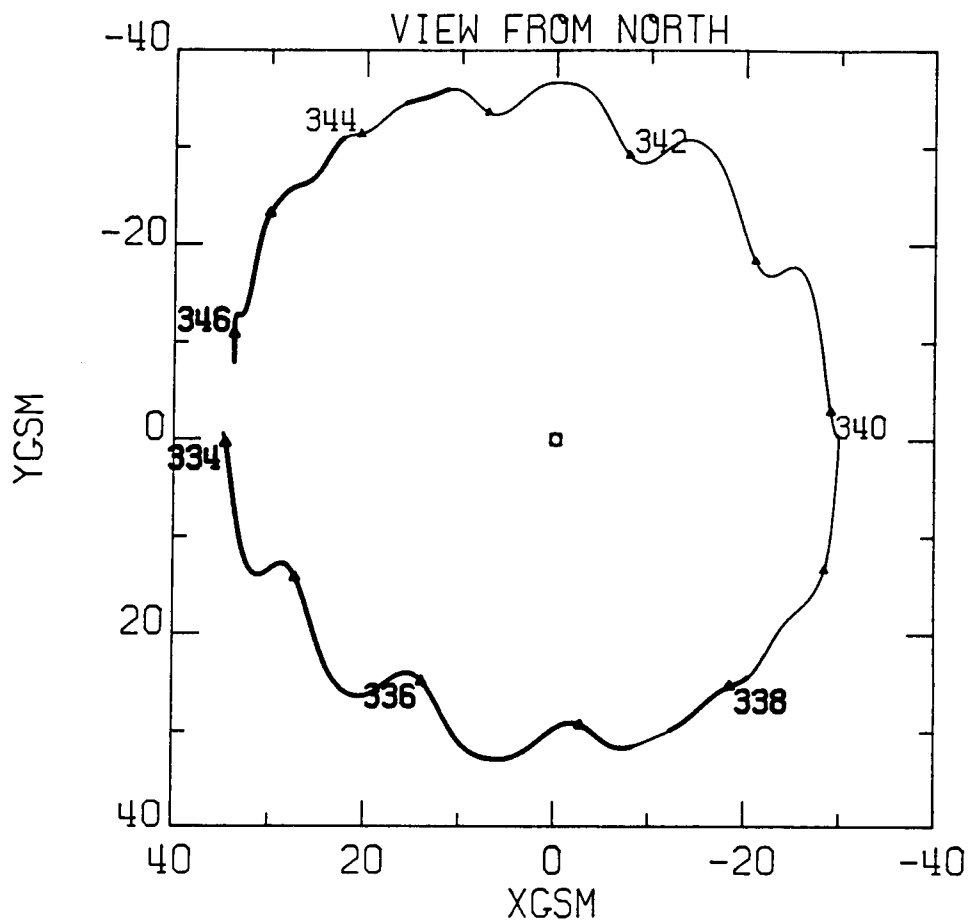
IMP 7 TRAJECTORY. ASCENDING NODE 5

FROM NOV 16 TO NOV 28 1972

DAYS 321 THRU 333



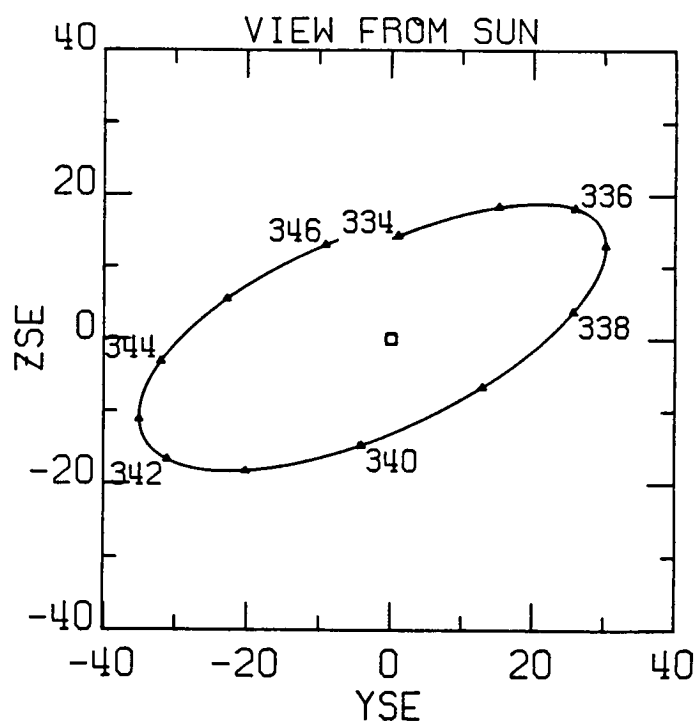
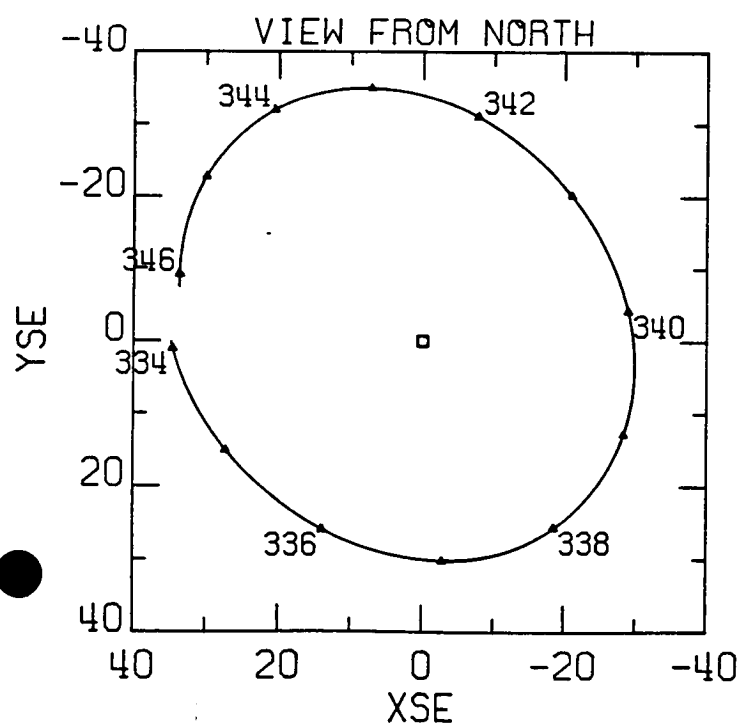
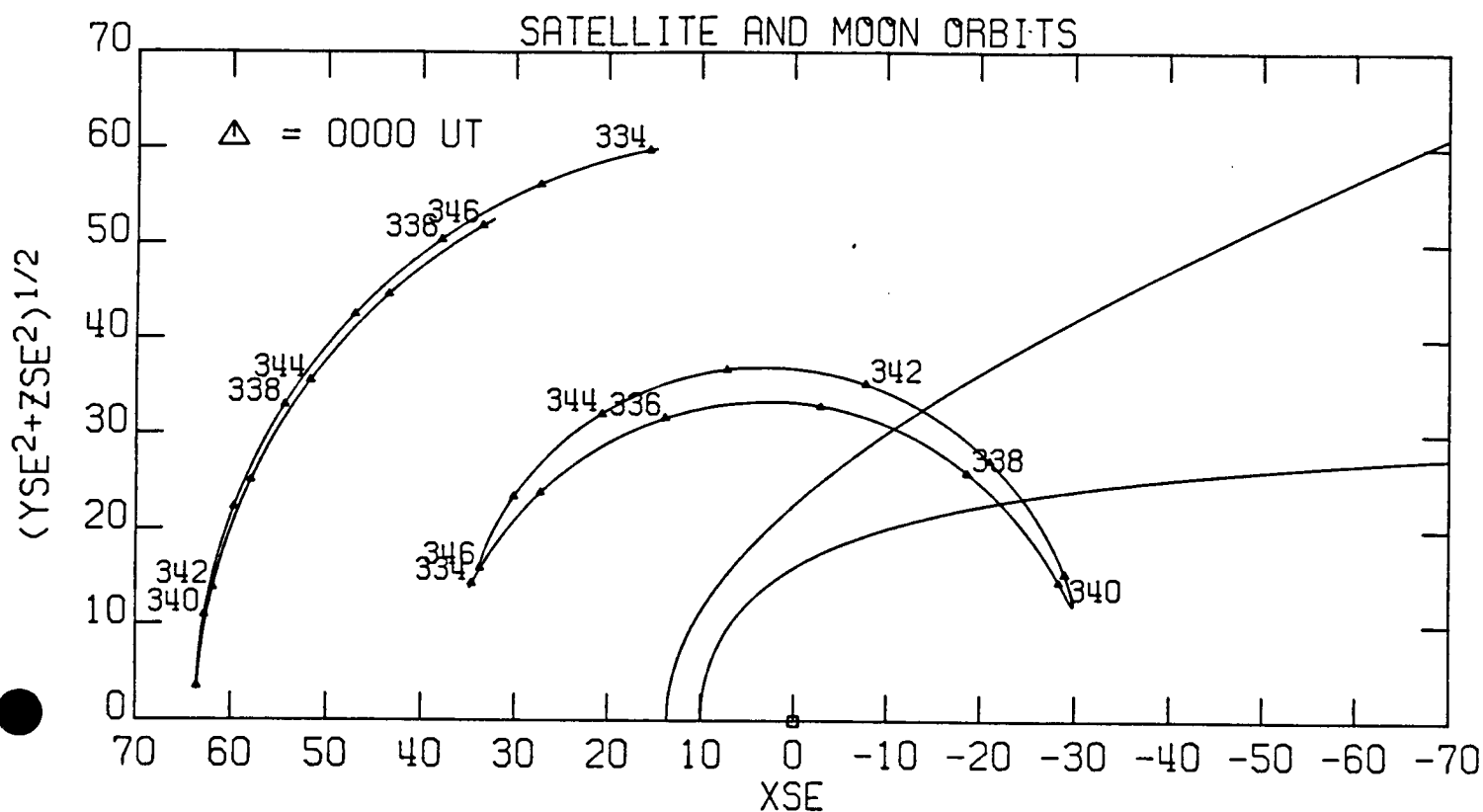
IMP 7 FROM NOV 28 TO DEC 11 1972



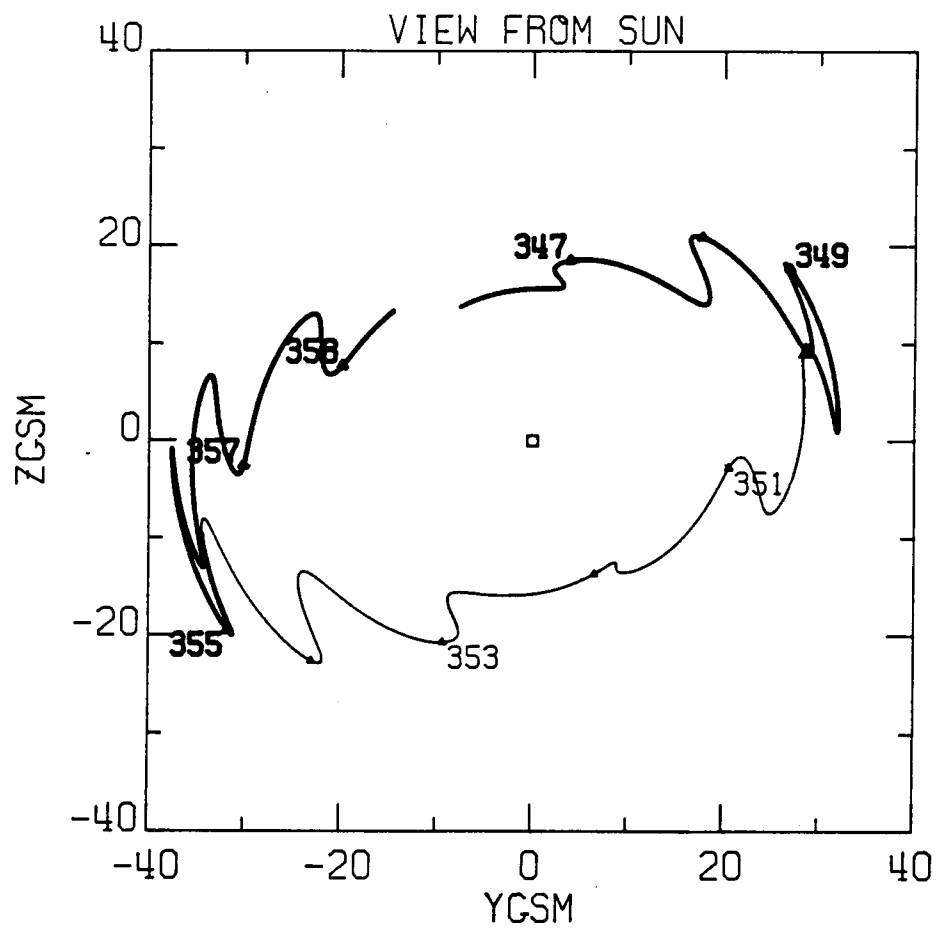
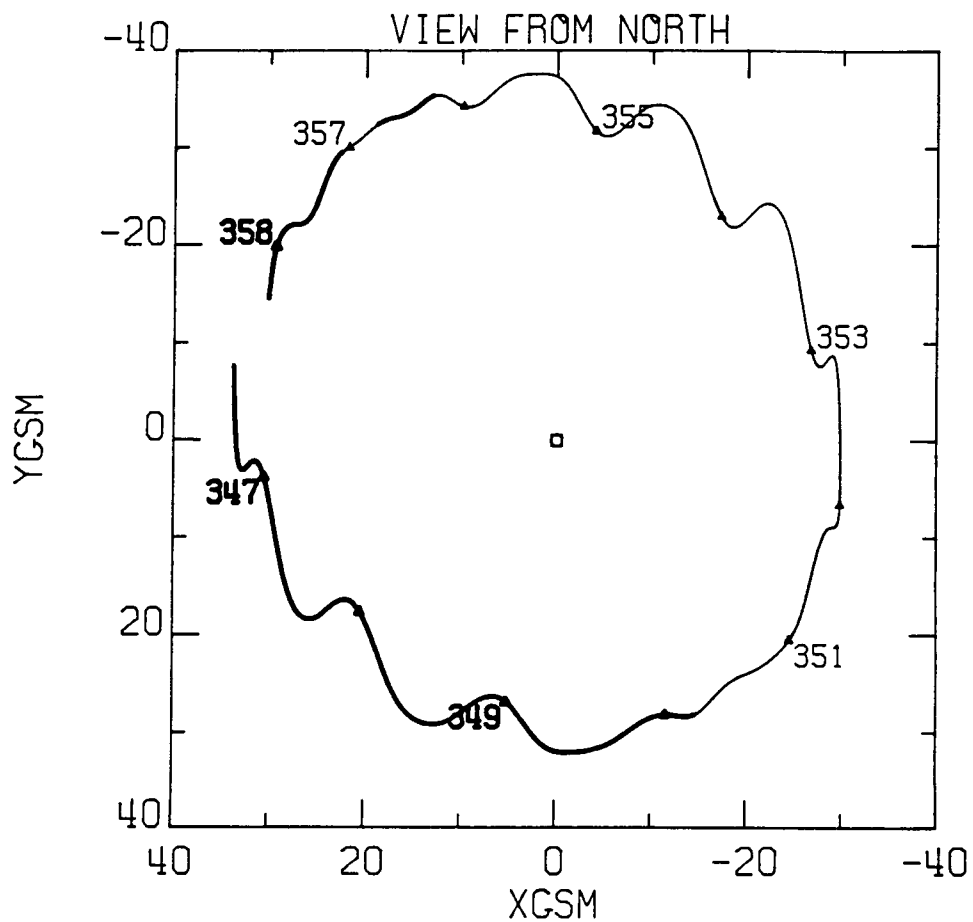
IMP 7 TRAJECTORY. ASCENDING NODE 6

FROM NOV 28 TO DEC 11 1972

DAYS 333 THRU 346



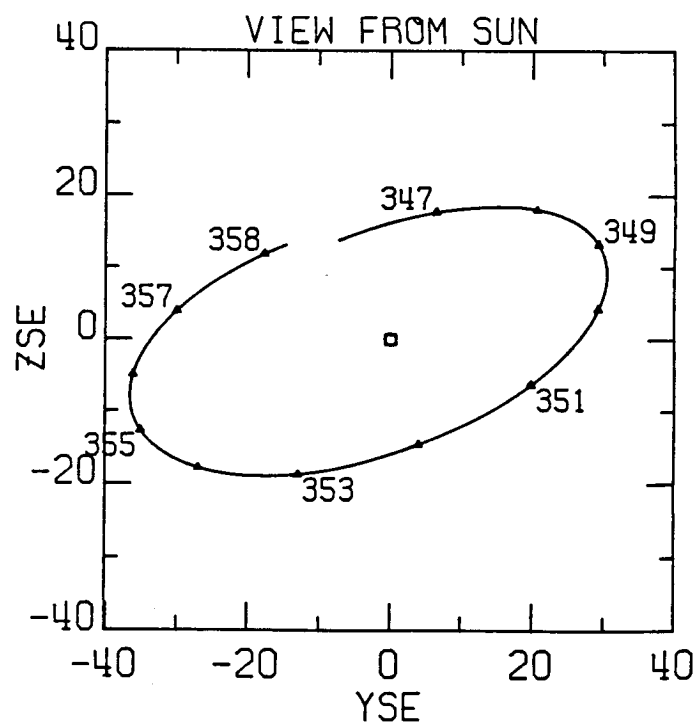
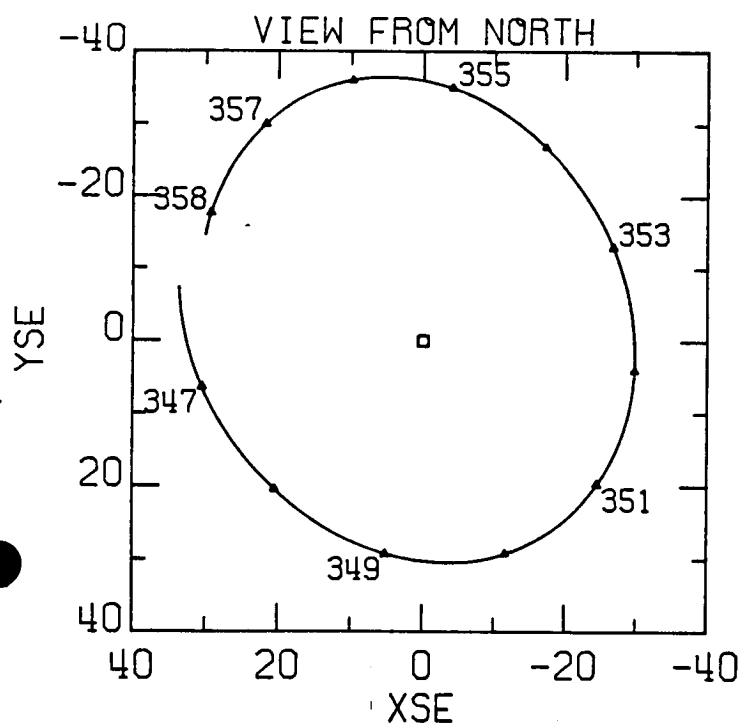
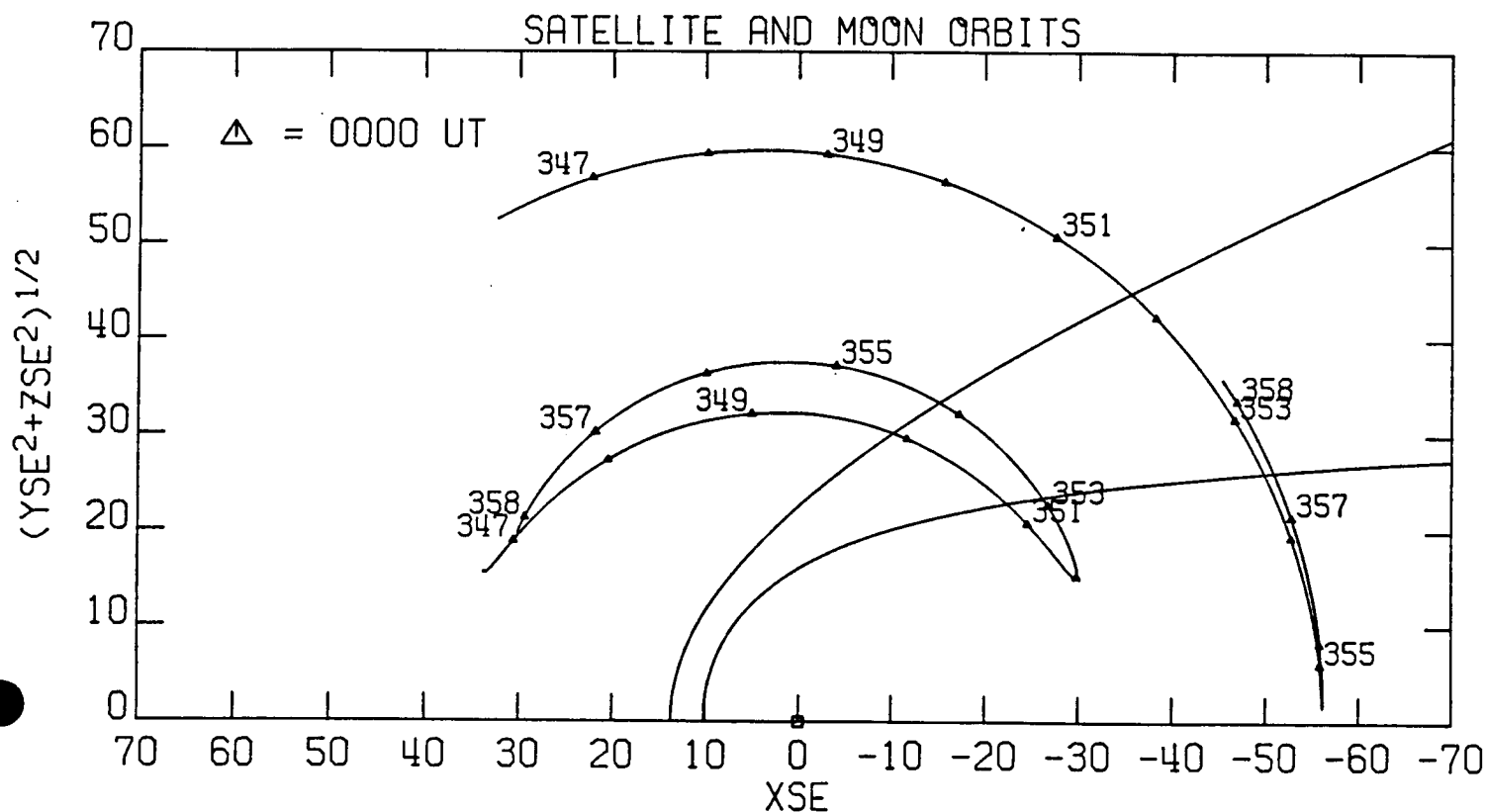
IMP 7 FROM DEC 11 TO DEC 23 1972



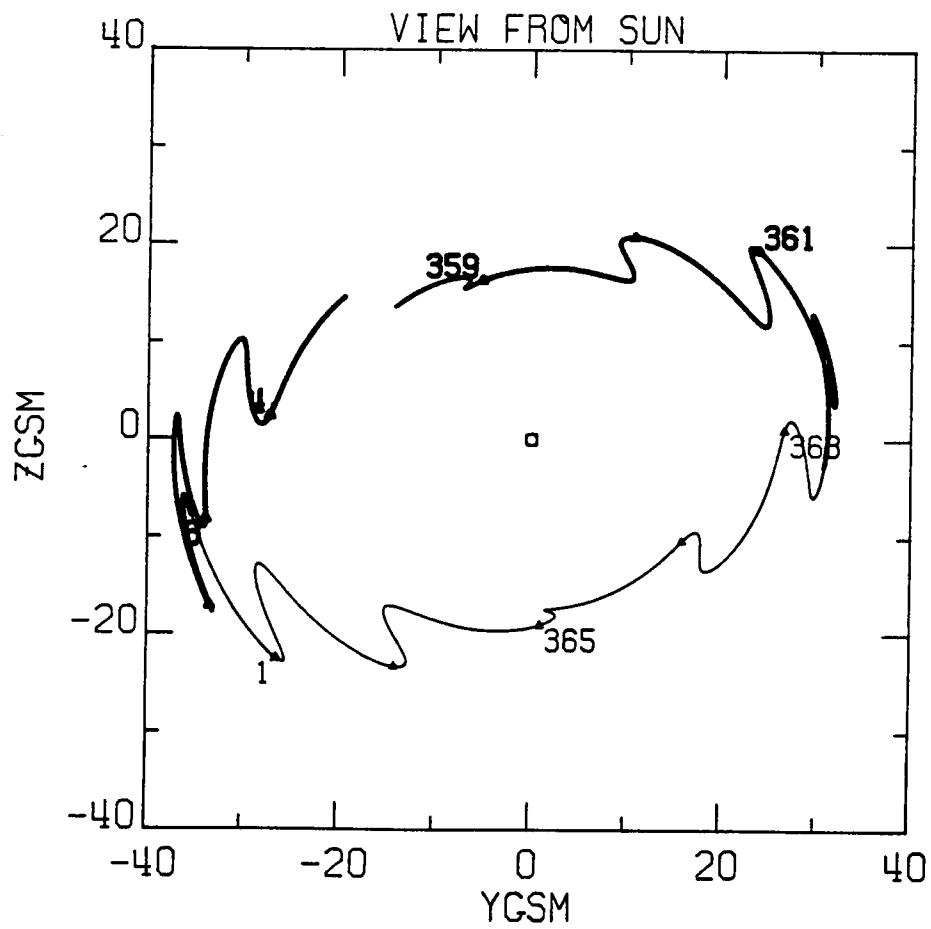
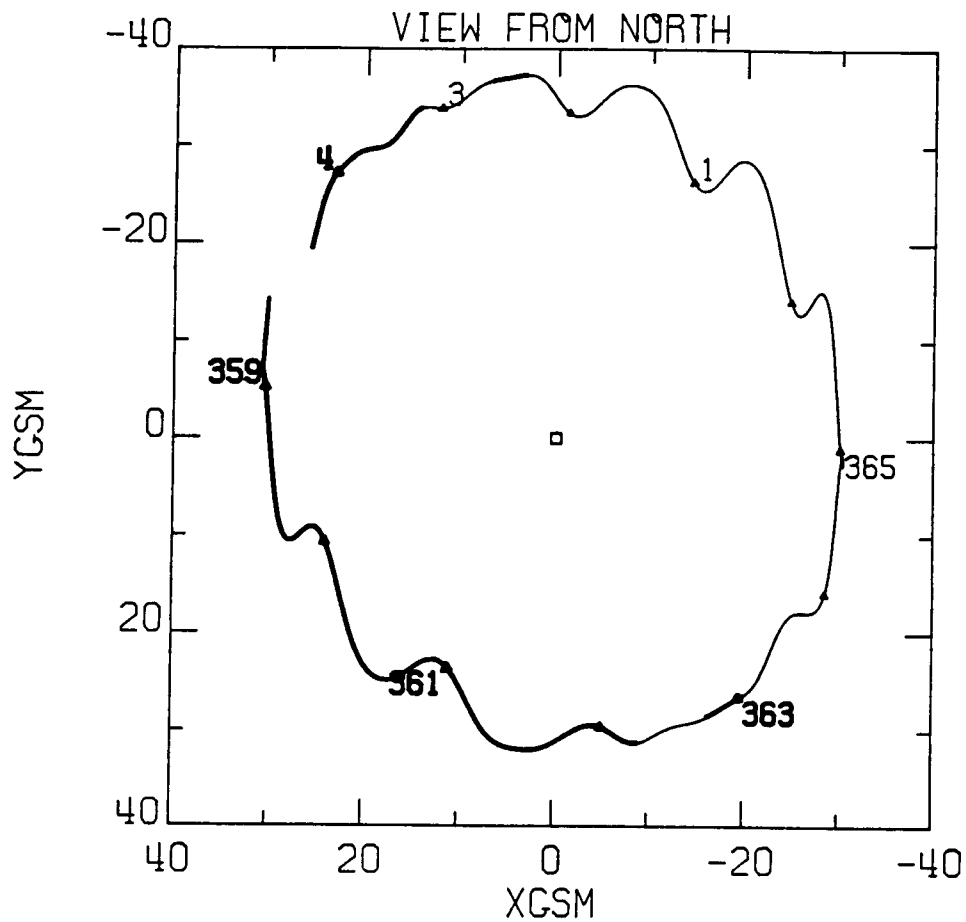
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FROM DEC 11 TO DEC 23 1972

DAYS 346 THRU 358



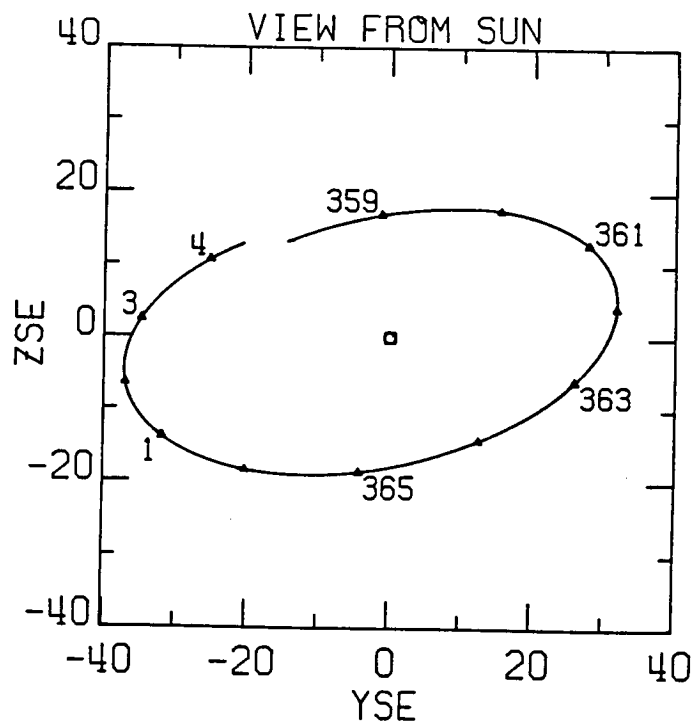
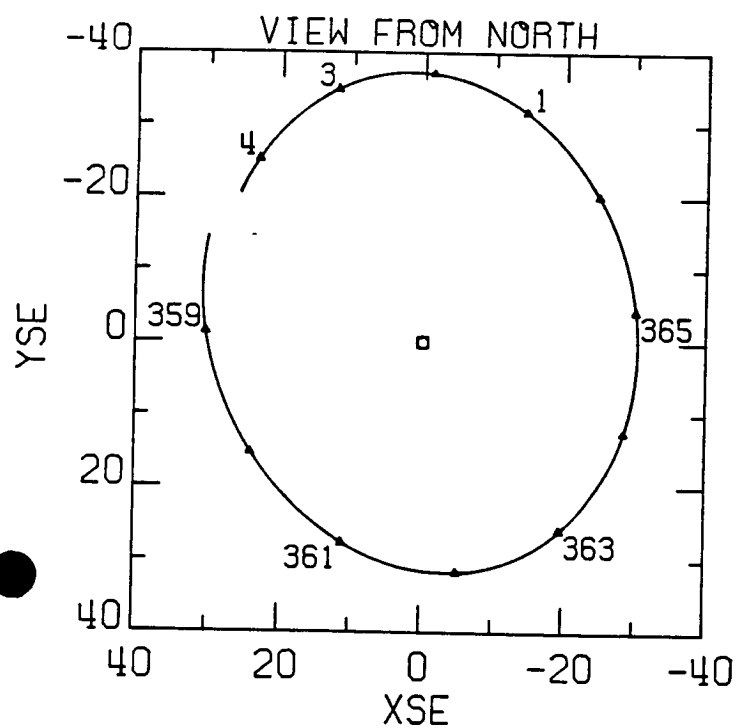
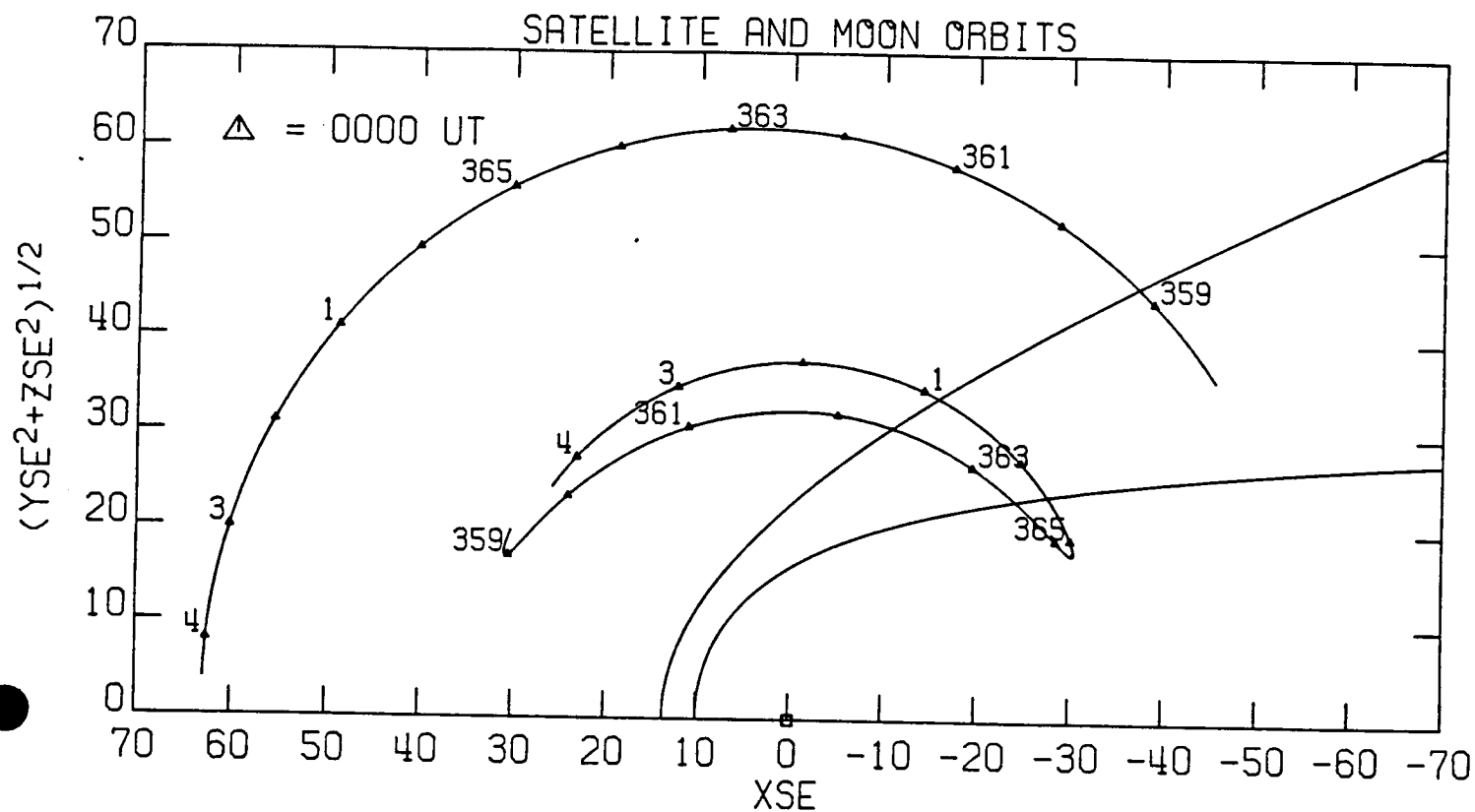
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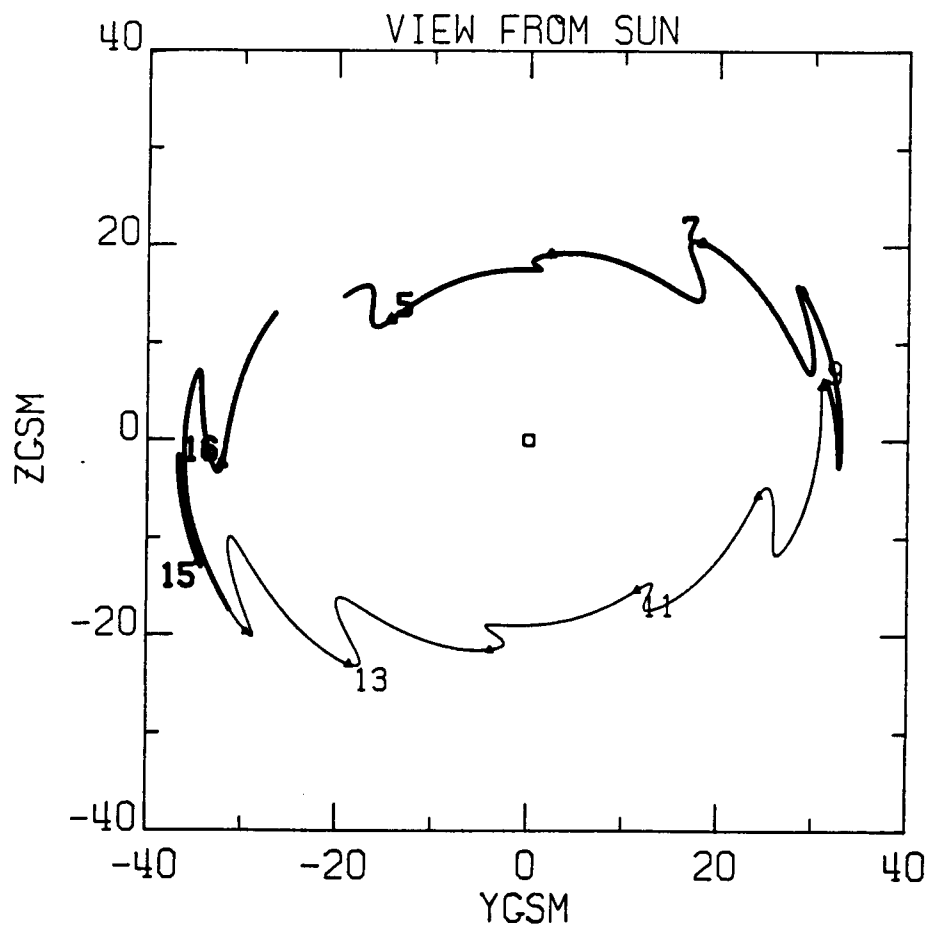
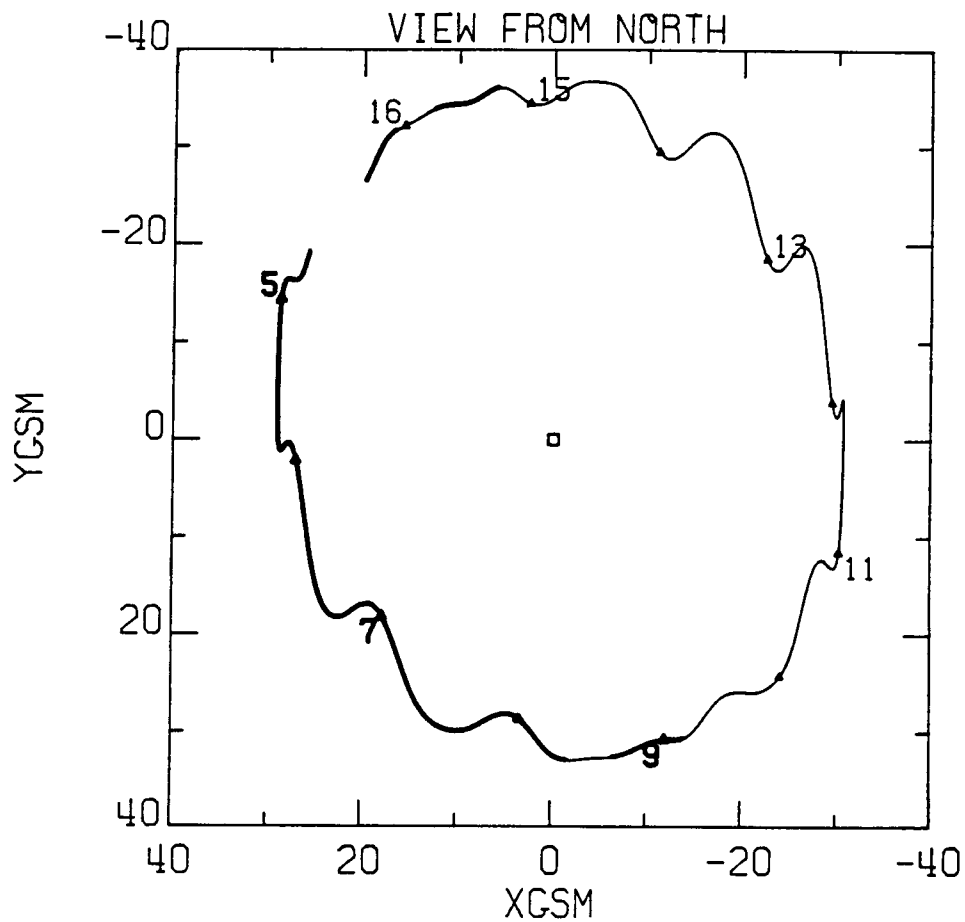
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FROM DEC 23 TO JAN 4 1973

DAYS 358 THRU 4



IMP 7 FROM JAN 4 TO JAN 16 1973

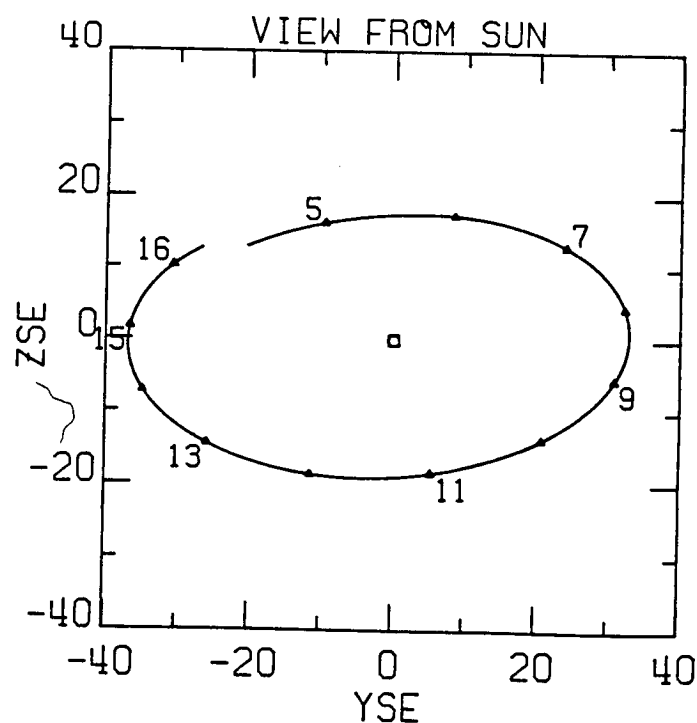
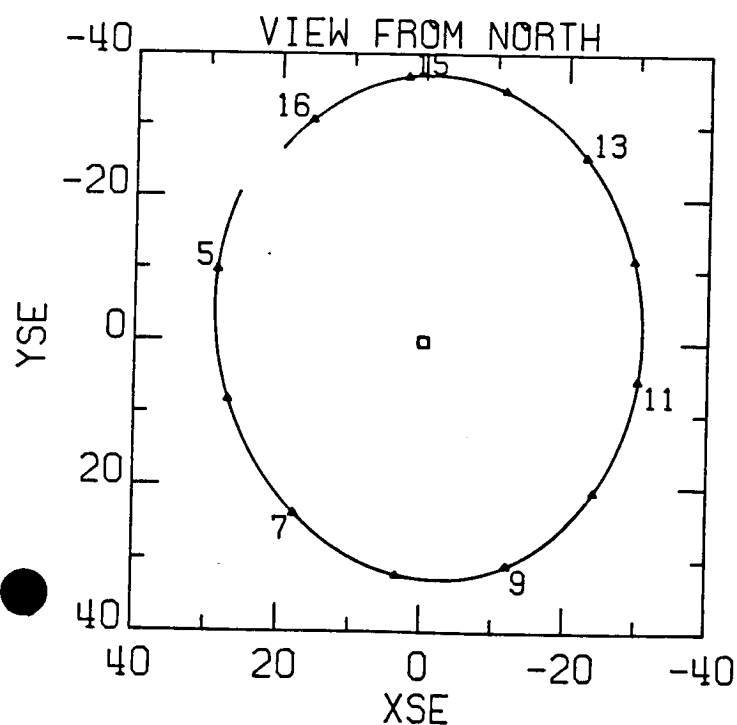
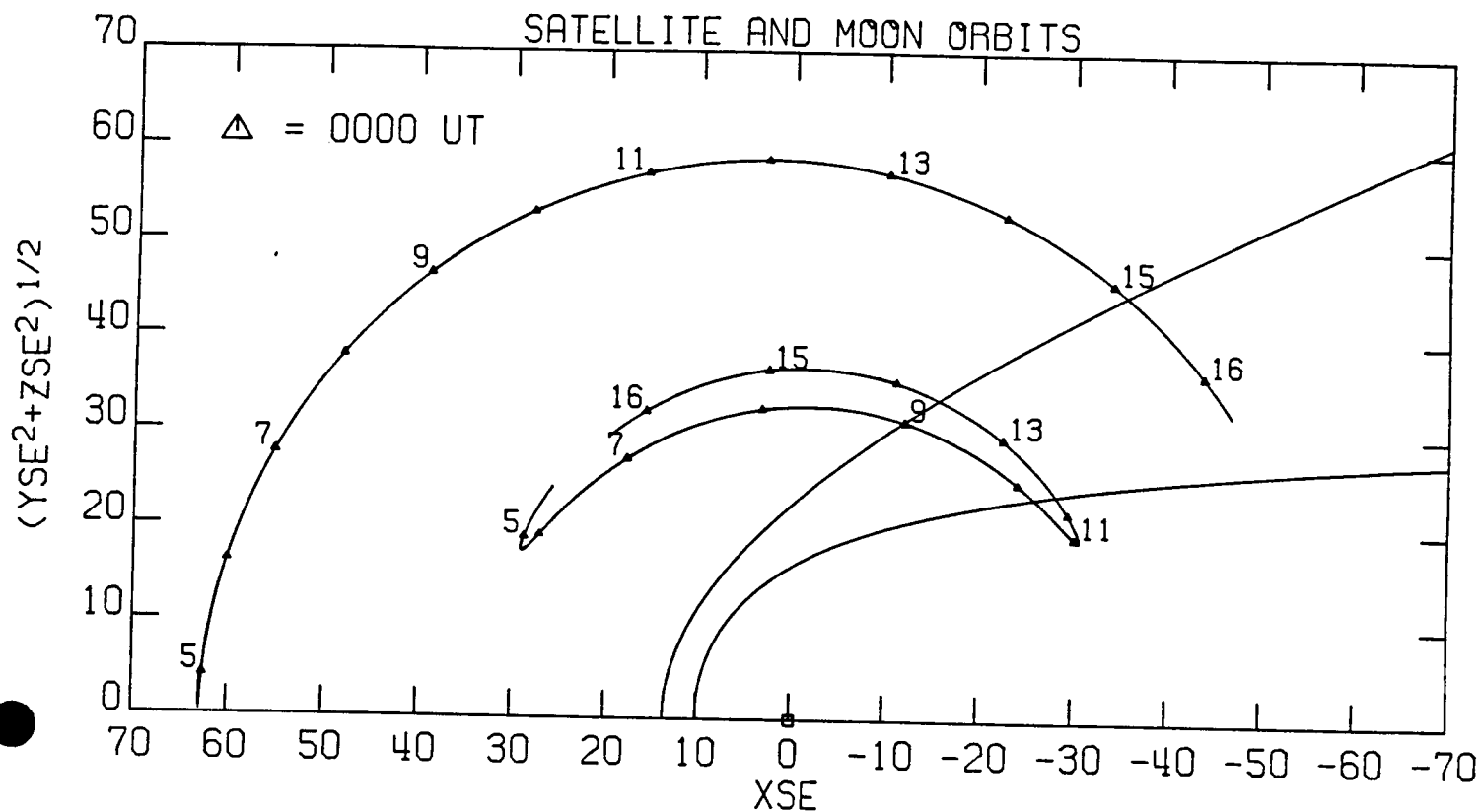


IMP 7 TRAJECTORY.

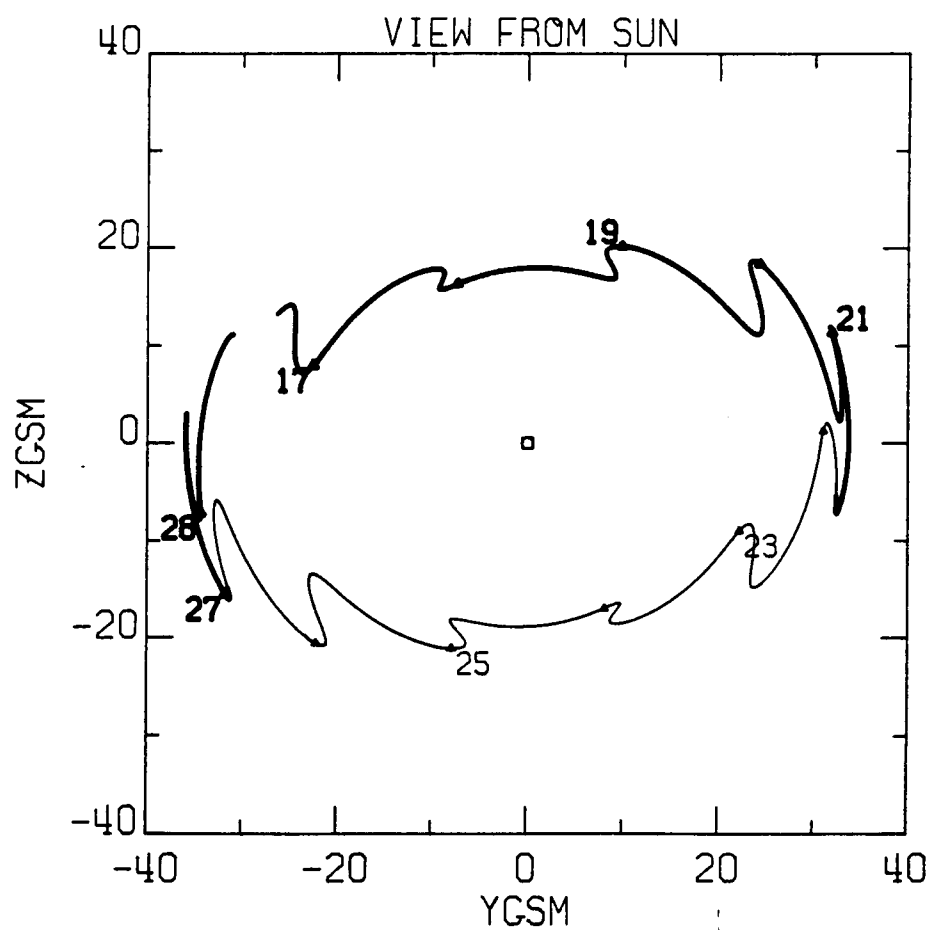
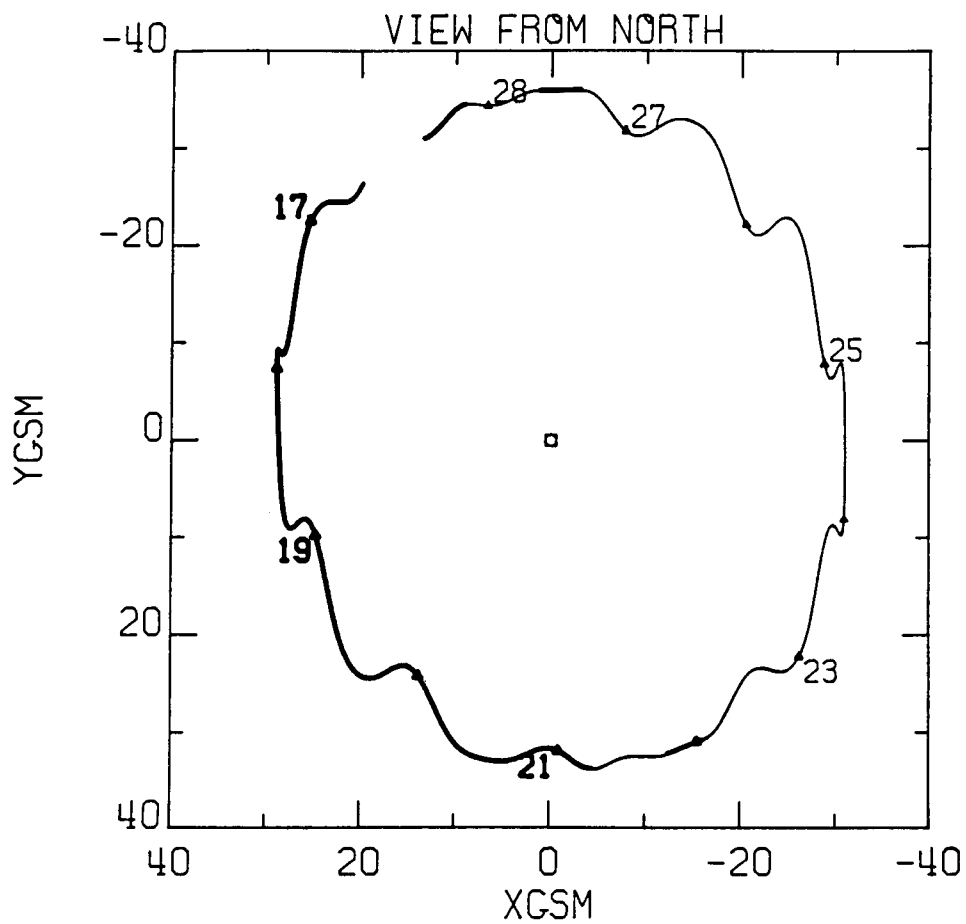
ASCENDING NODE 9

FROM JAN 4 TO JAN 16 1973

DAYS 4 THRU 16



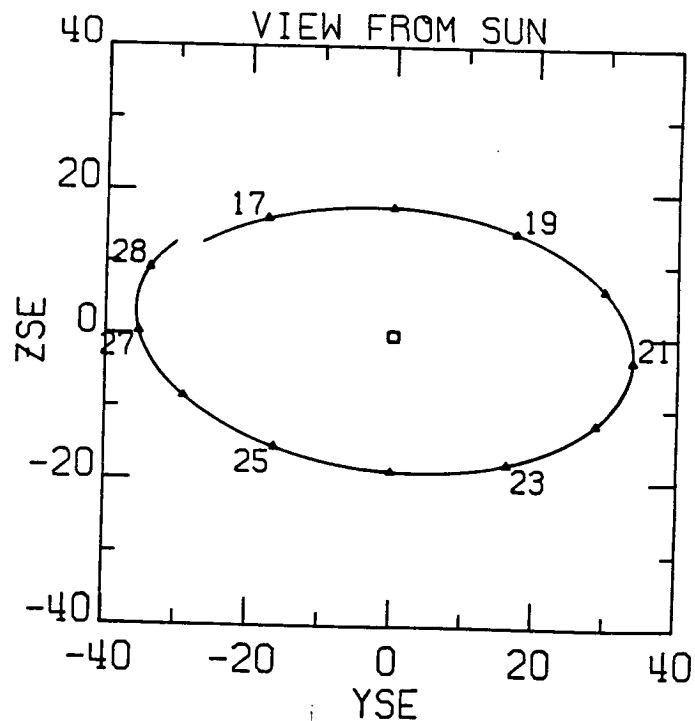
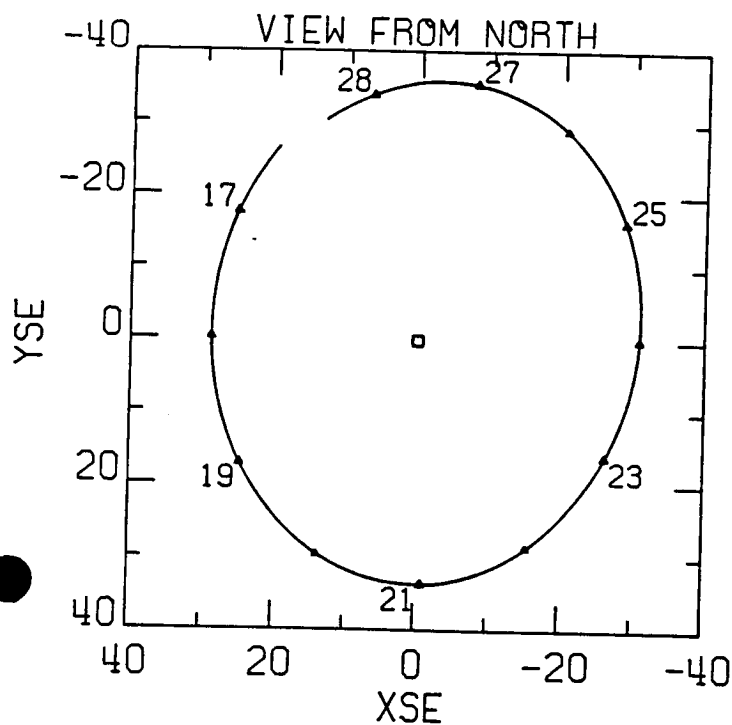
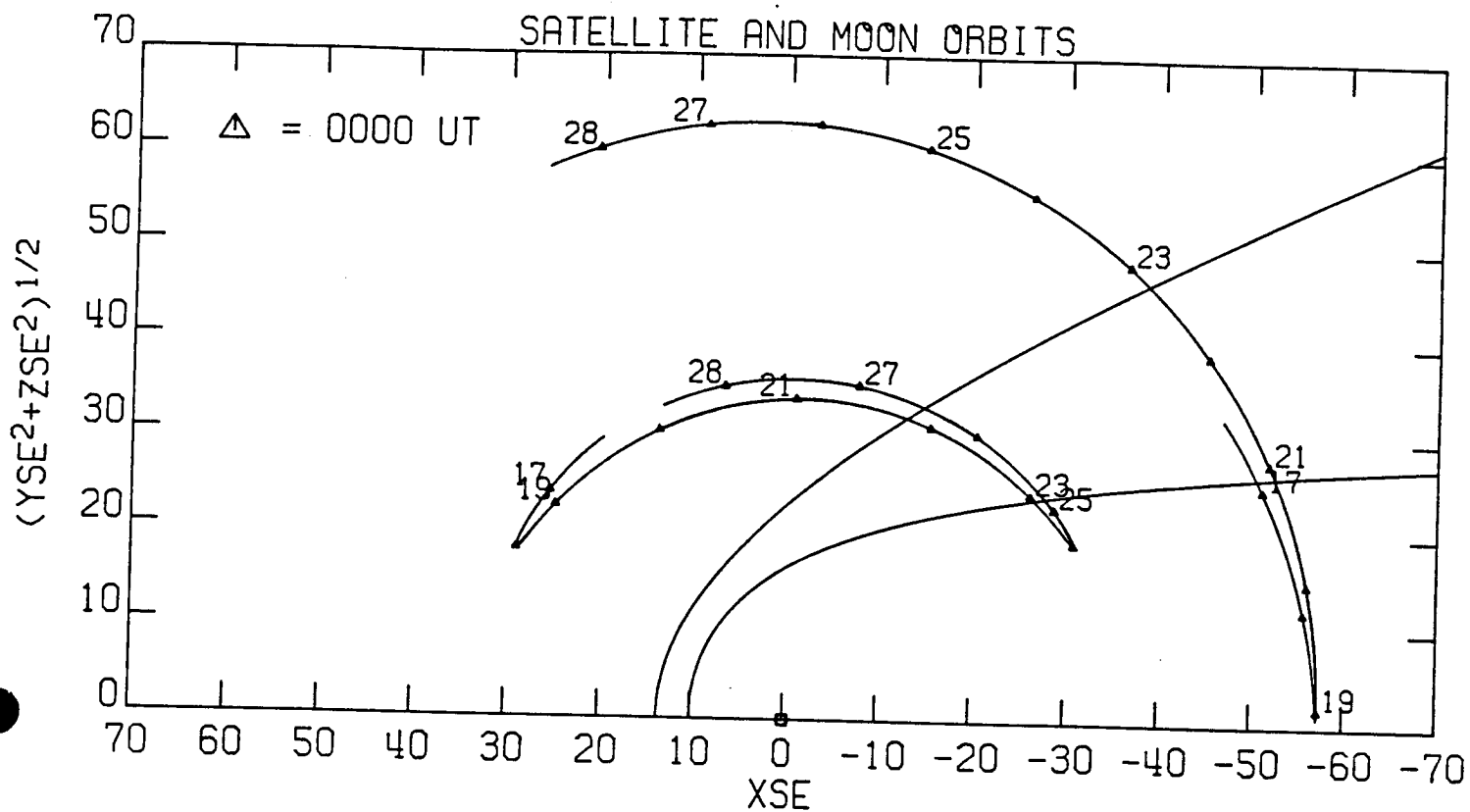
IMP 7 FROM JAN 16 TO JAN 28 1973



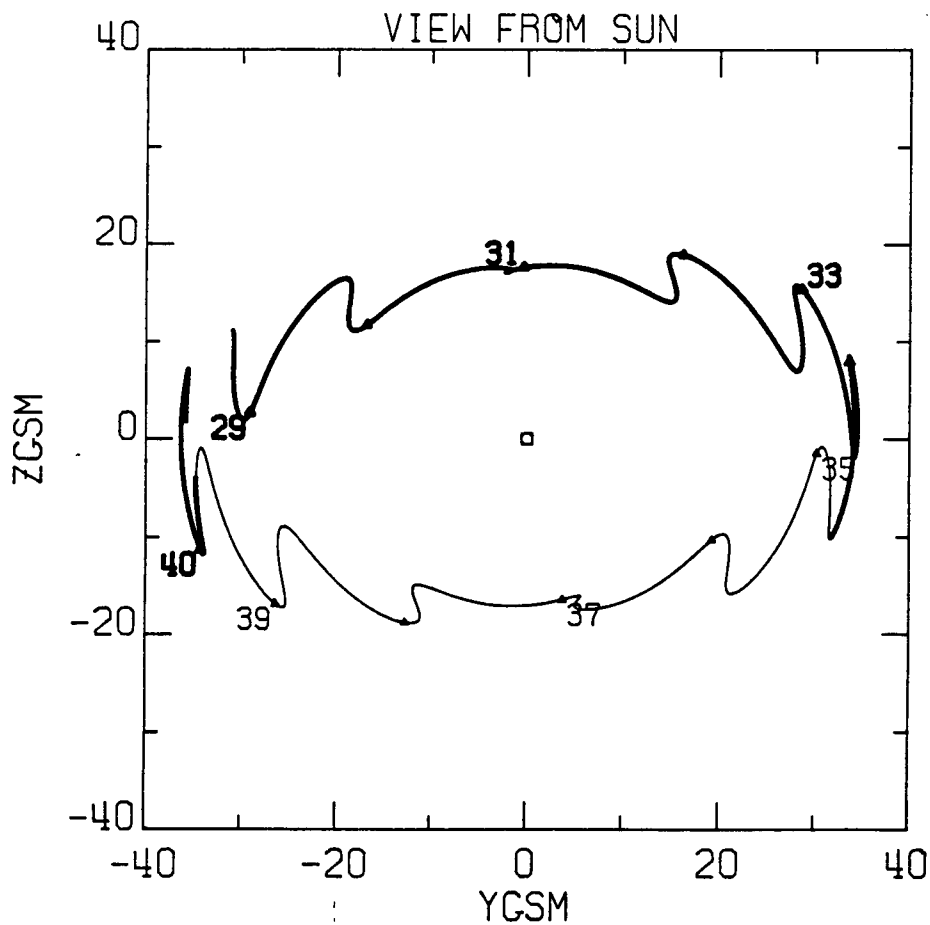
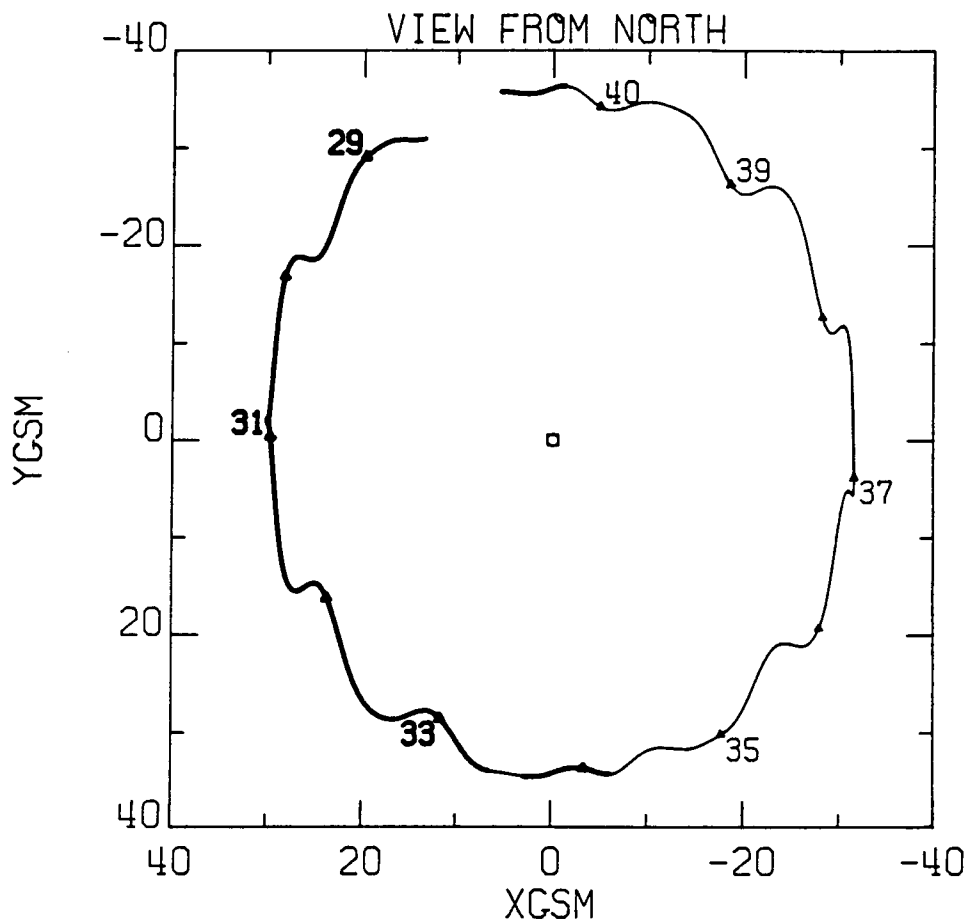
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FROM JAN 16 TO JAN 28 1973

DAYS 16 THRU 28



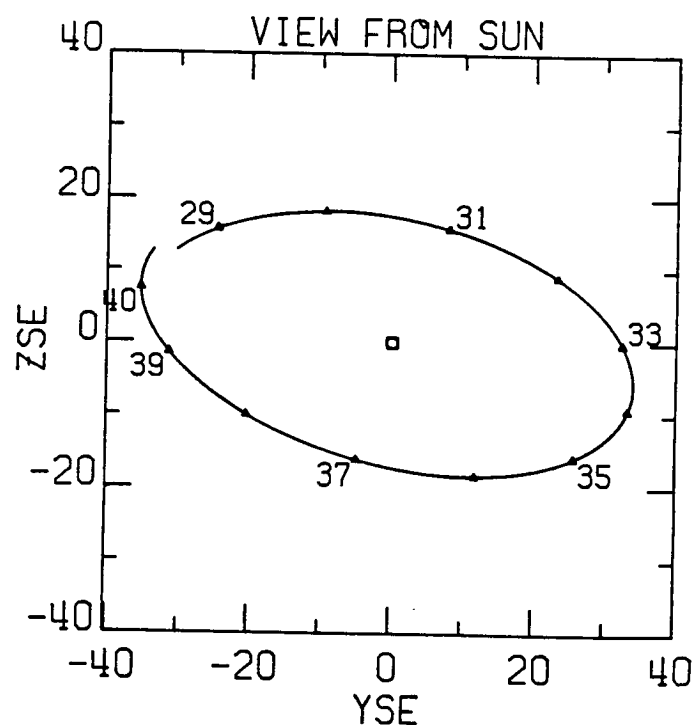
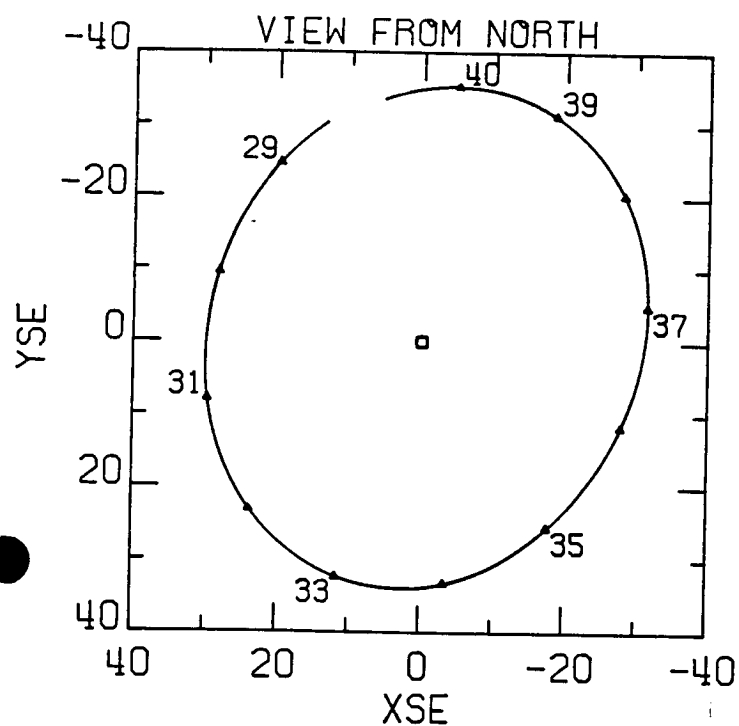
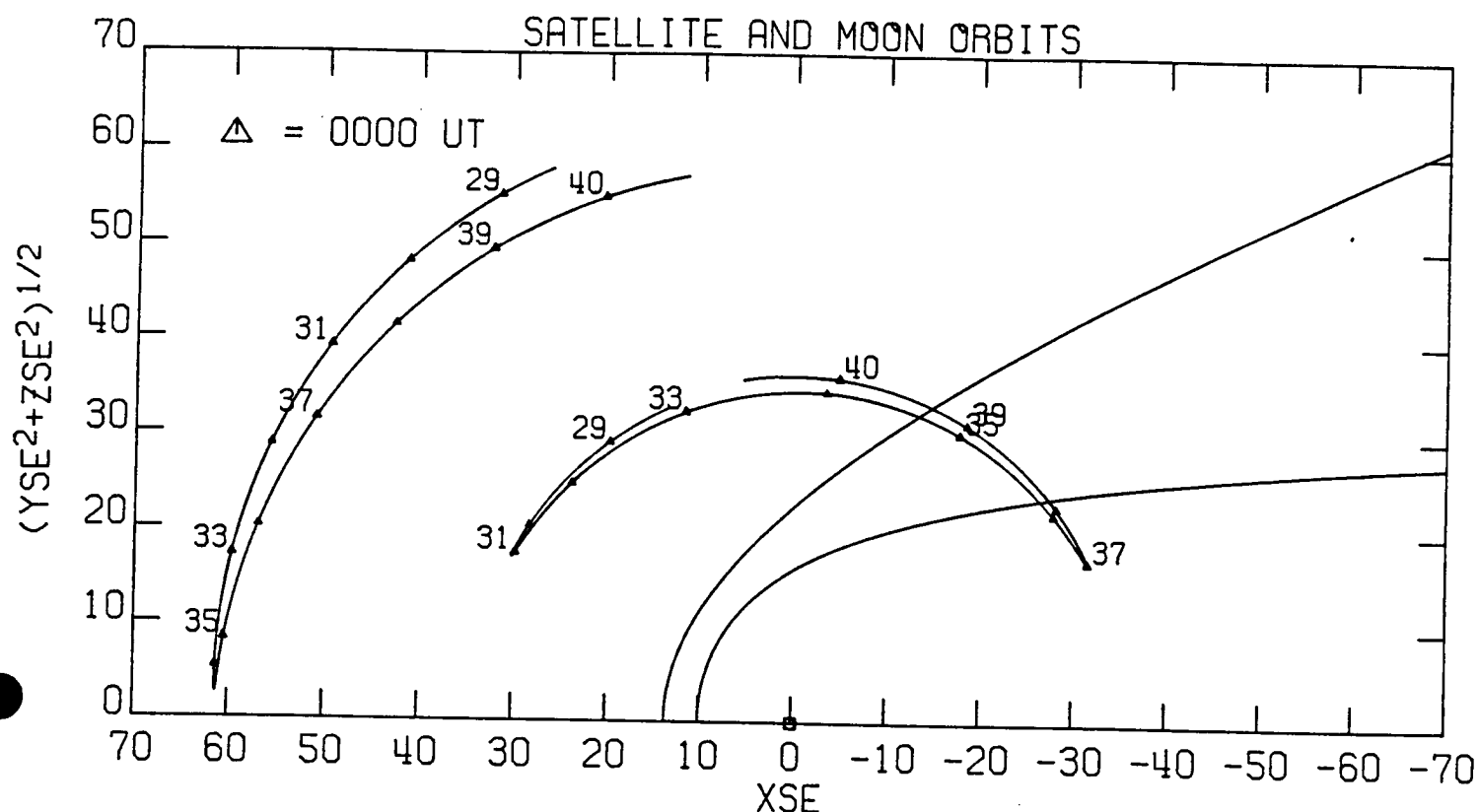
IMP 7 FROM JAN 28 TO FEB 9 1973



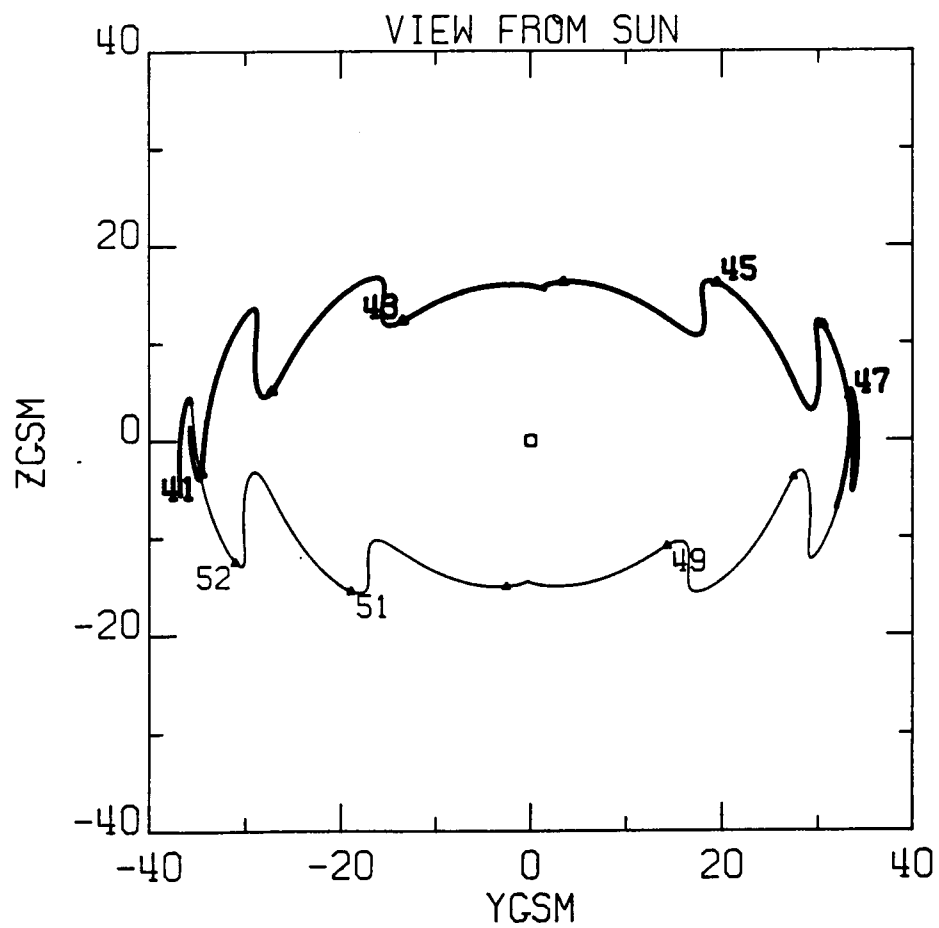
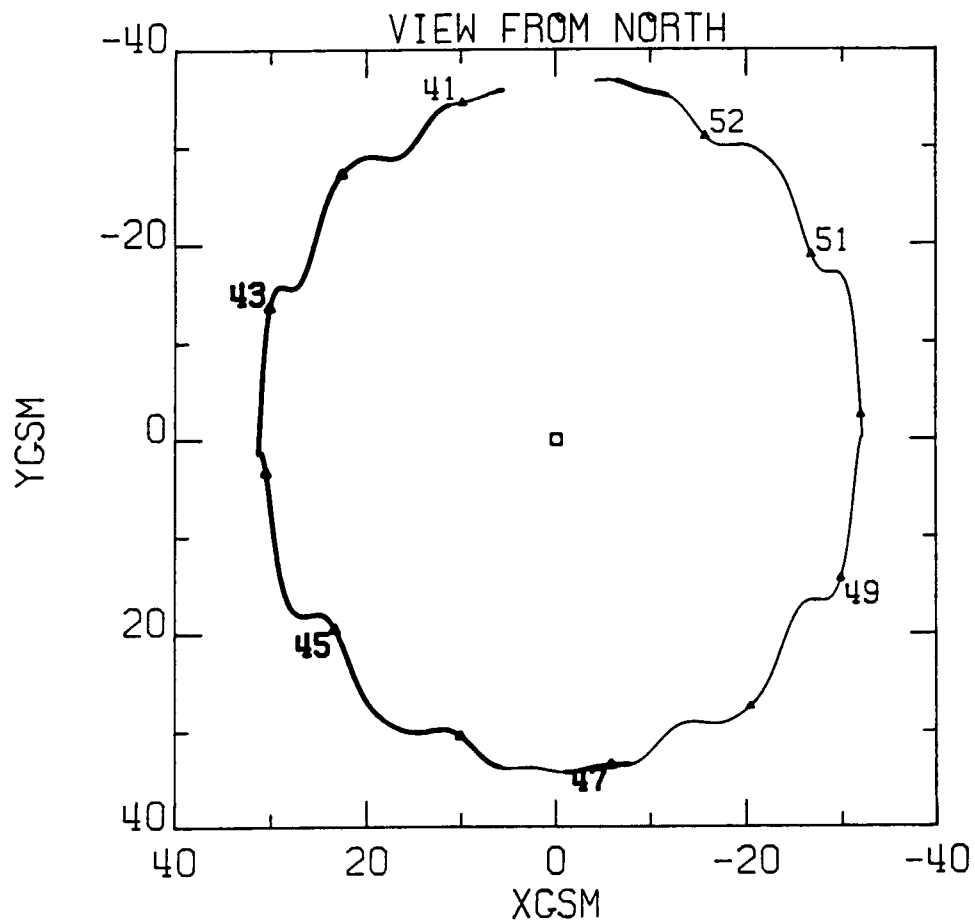
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FROM JAN 28 TO FEB 9 1973

DAYS 28 THRU 40



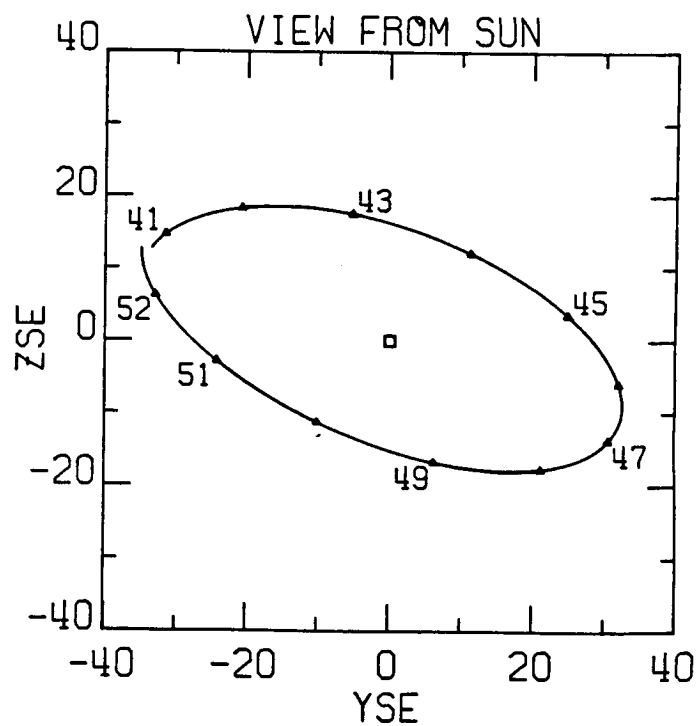
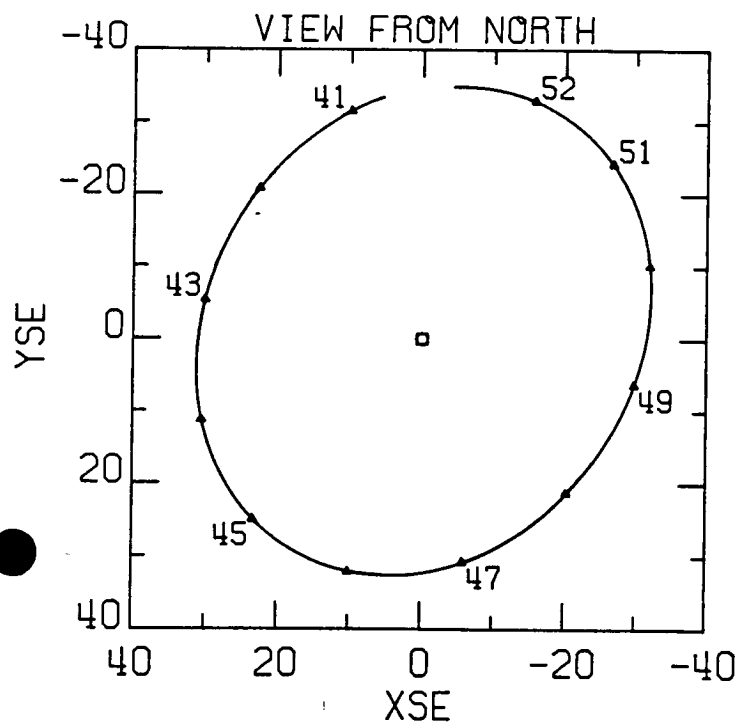
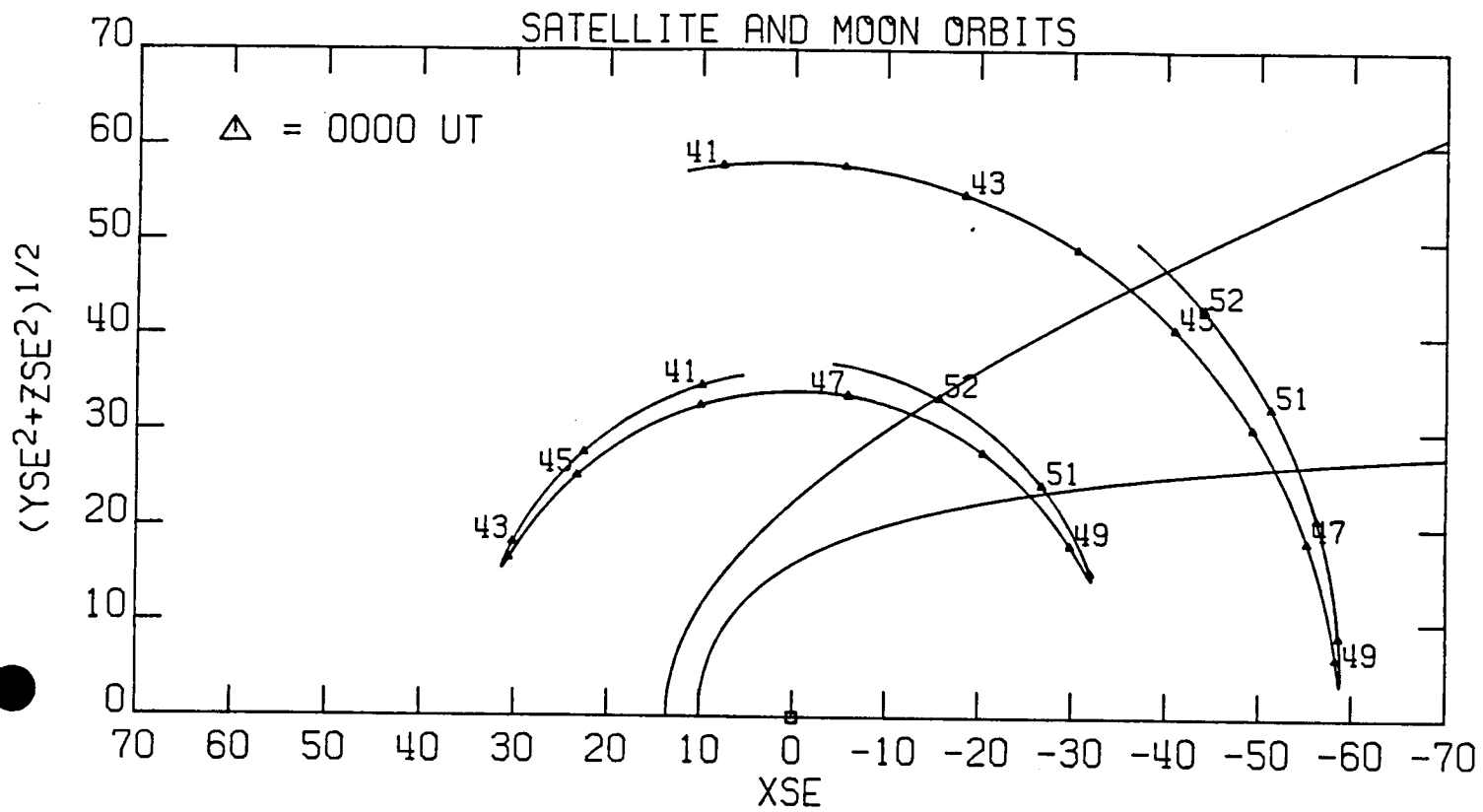
IMP 7 FROM FEB 9 TO FEB 21 1973



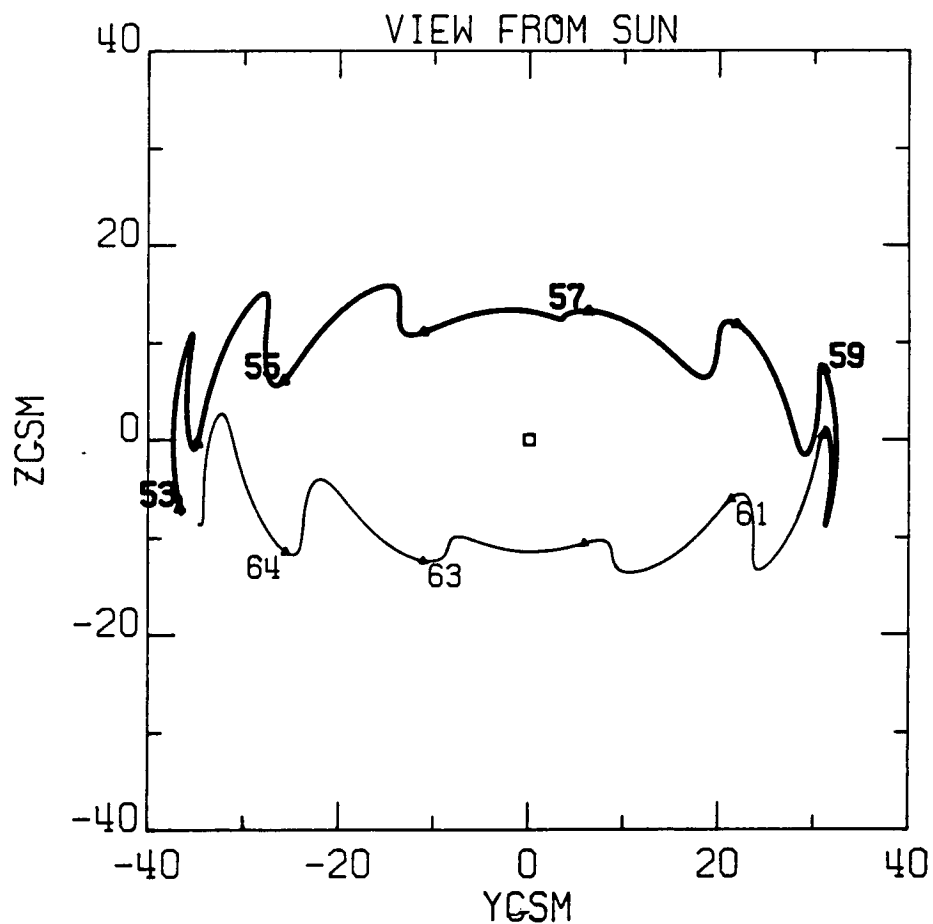
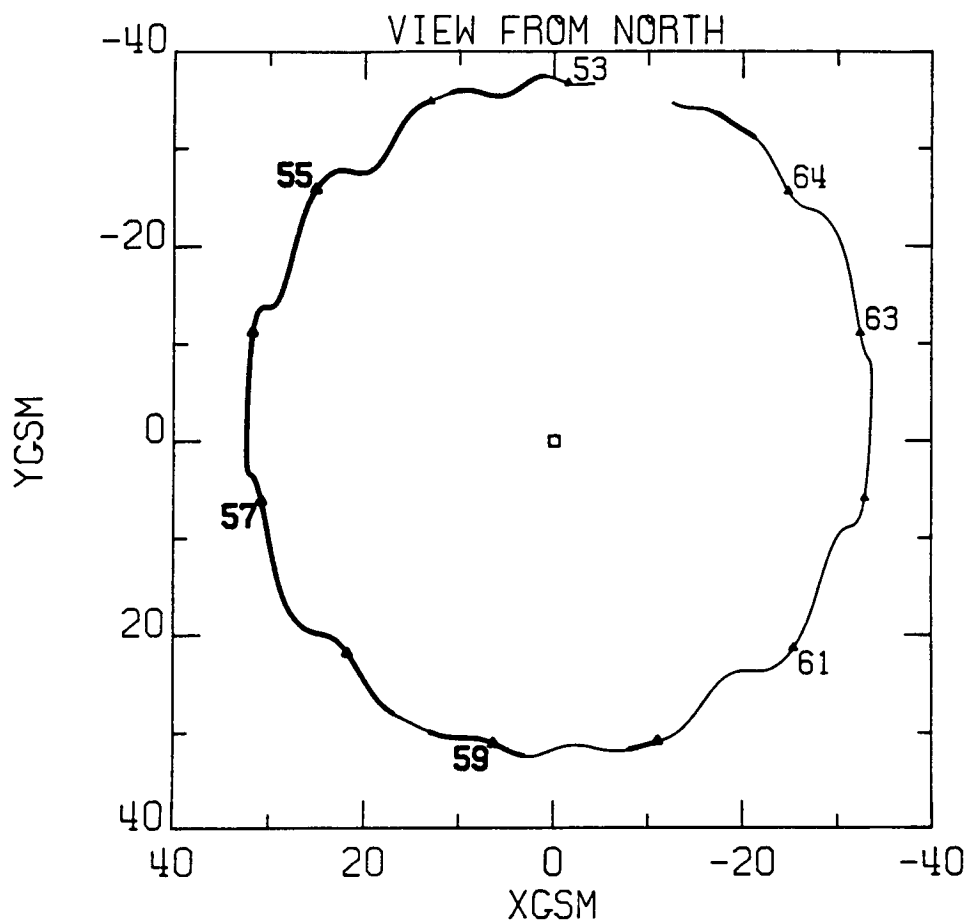
IMP 7 TRAJECTORY. ASCENDING NODE 12

FROM FEB 9 TO FEB 21 1973

DAYS 40 THRU 52



IMP 7 FROM FEB 21 TO MAR 5 1973

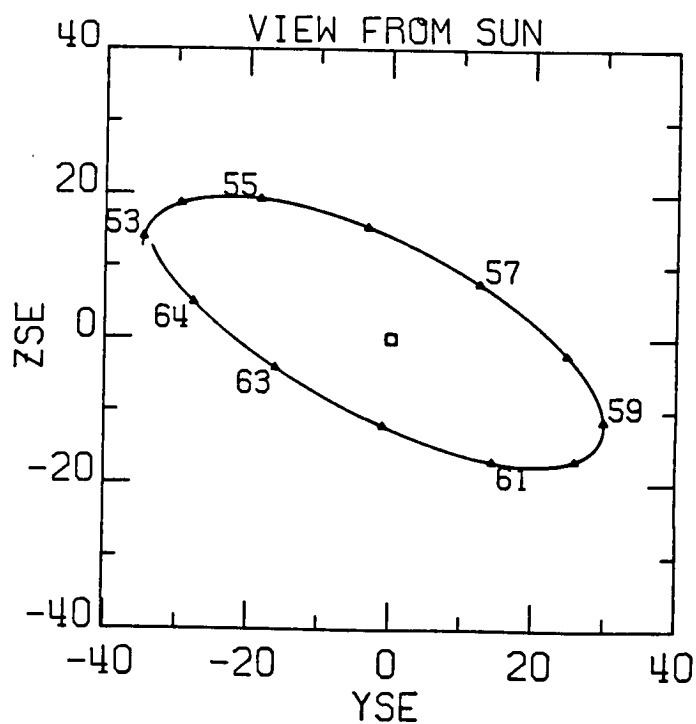
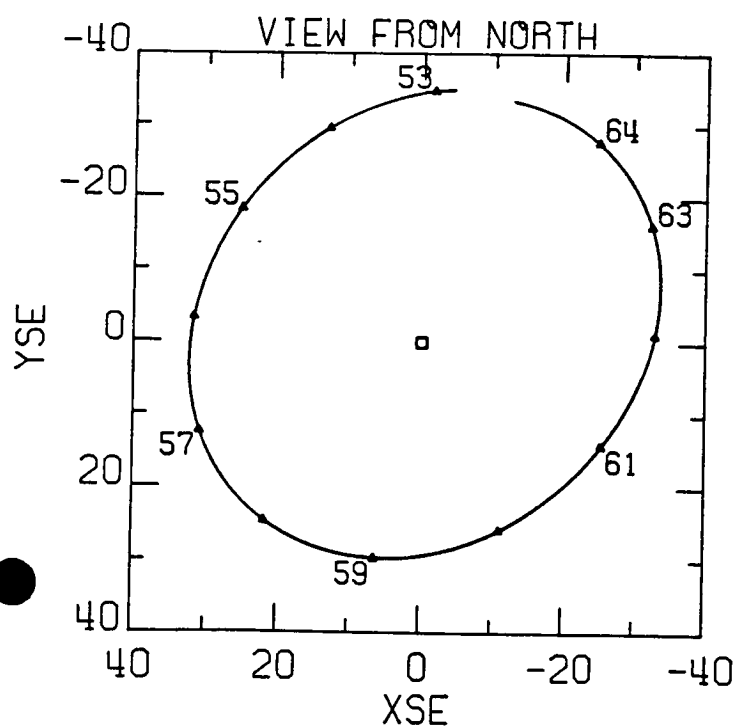
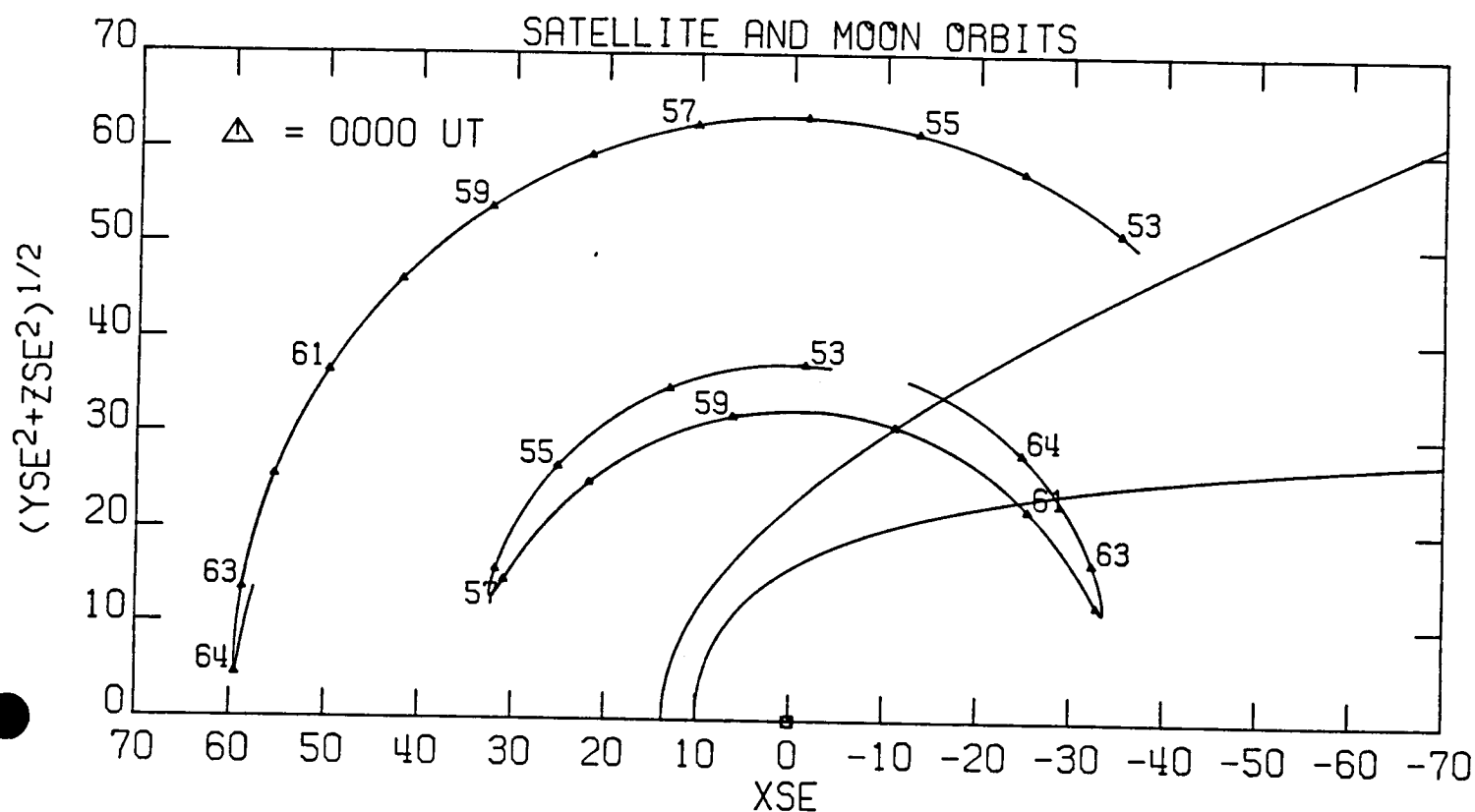


IMP 7 TRAJECTORY.

ASCENDING NODE 13

FROM FEB 21 TO MAR 5 1973

DAYS 52 THRU 64



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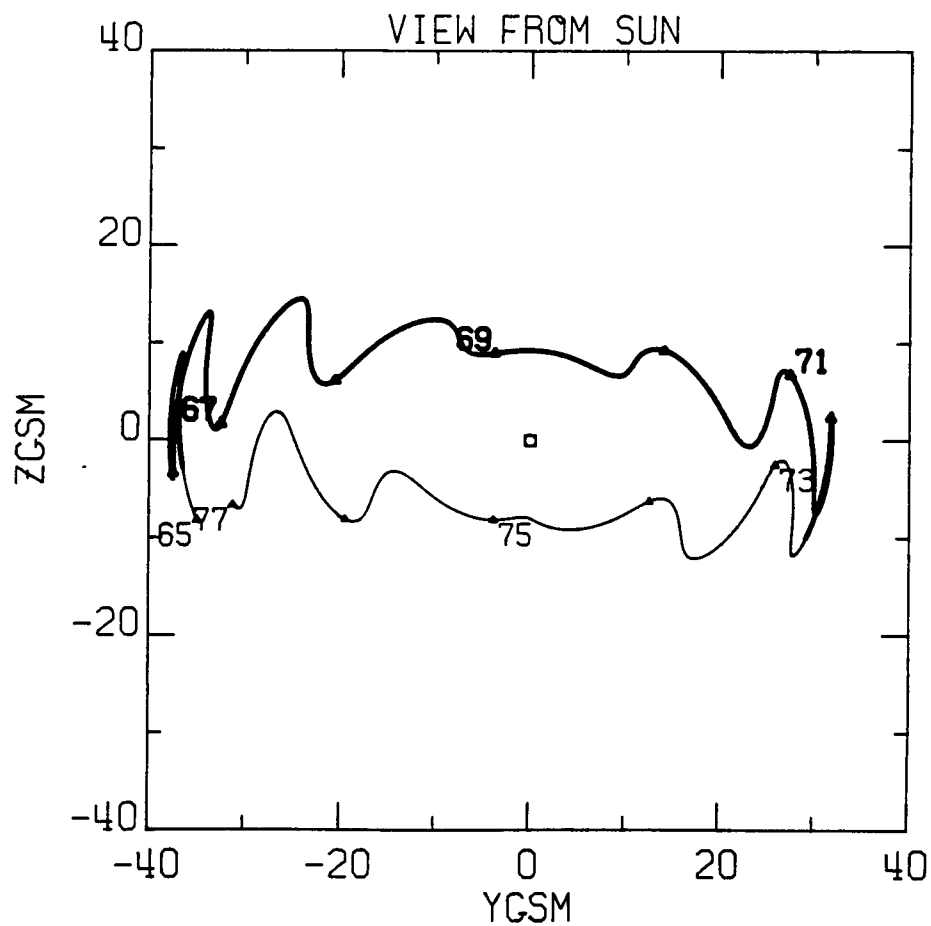
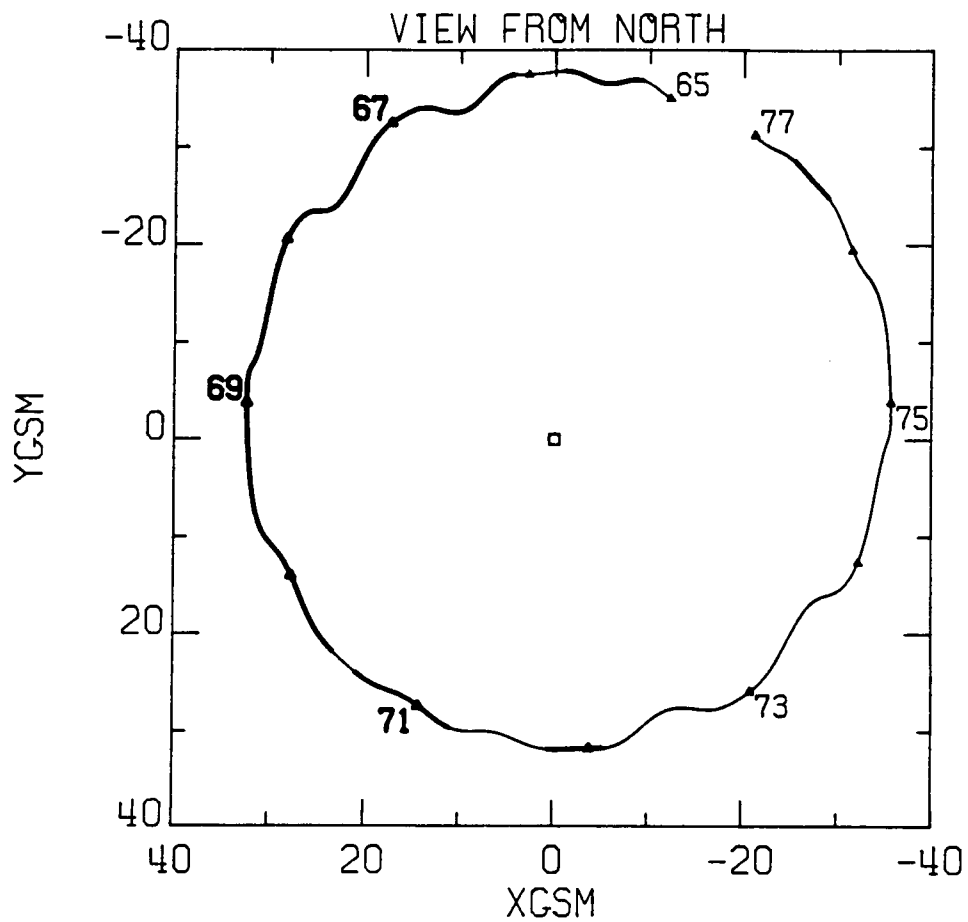
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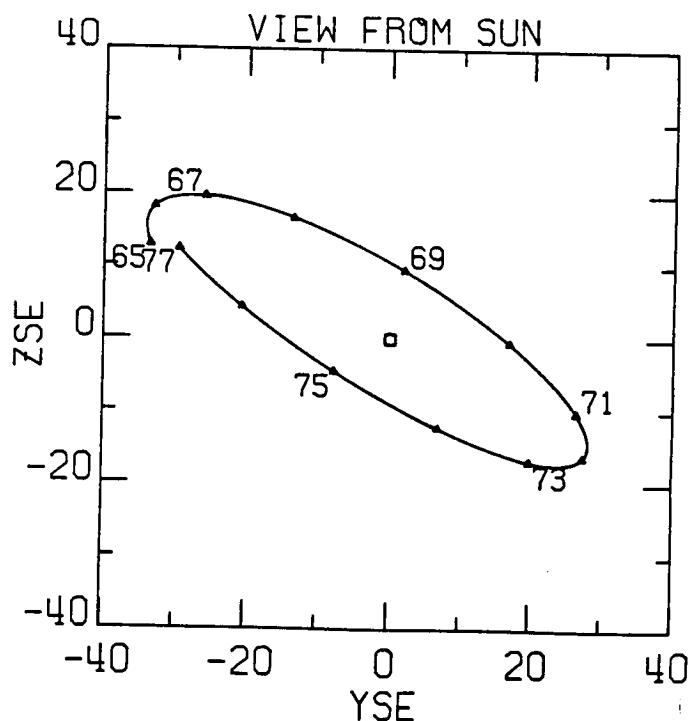
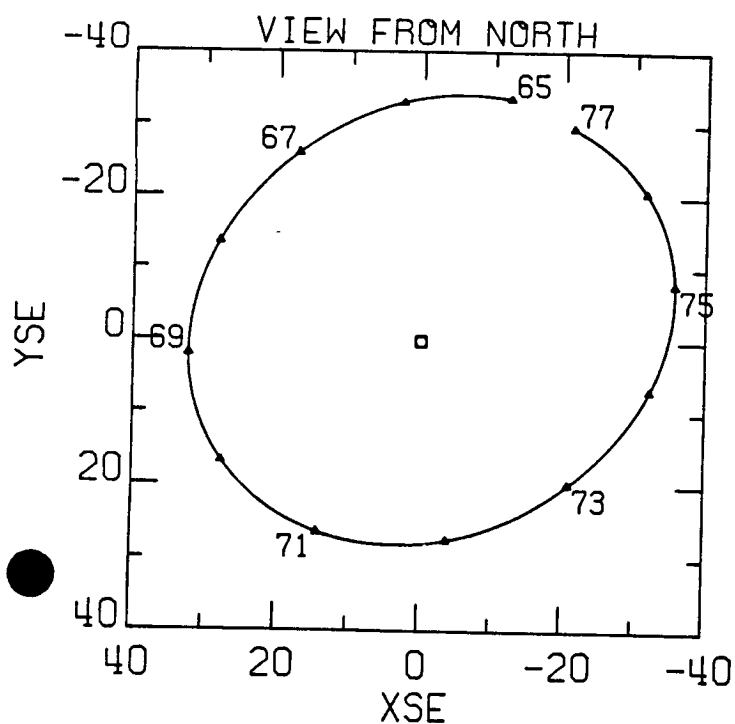
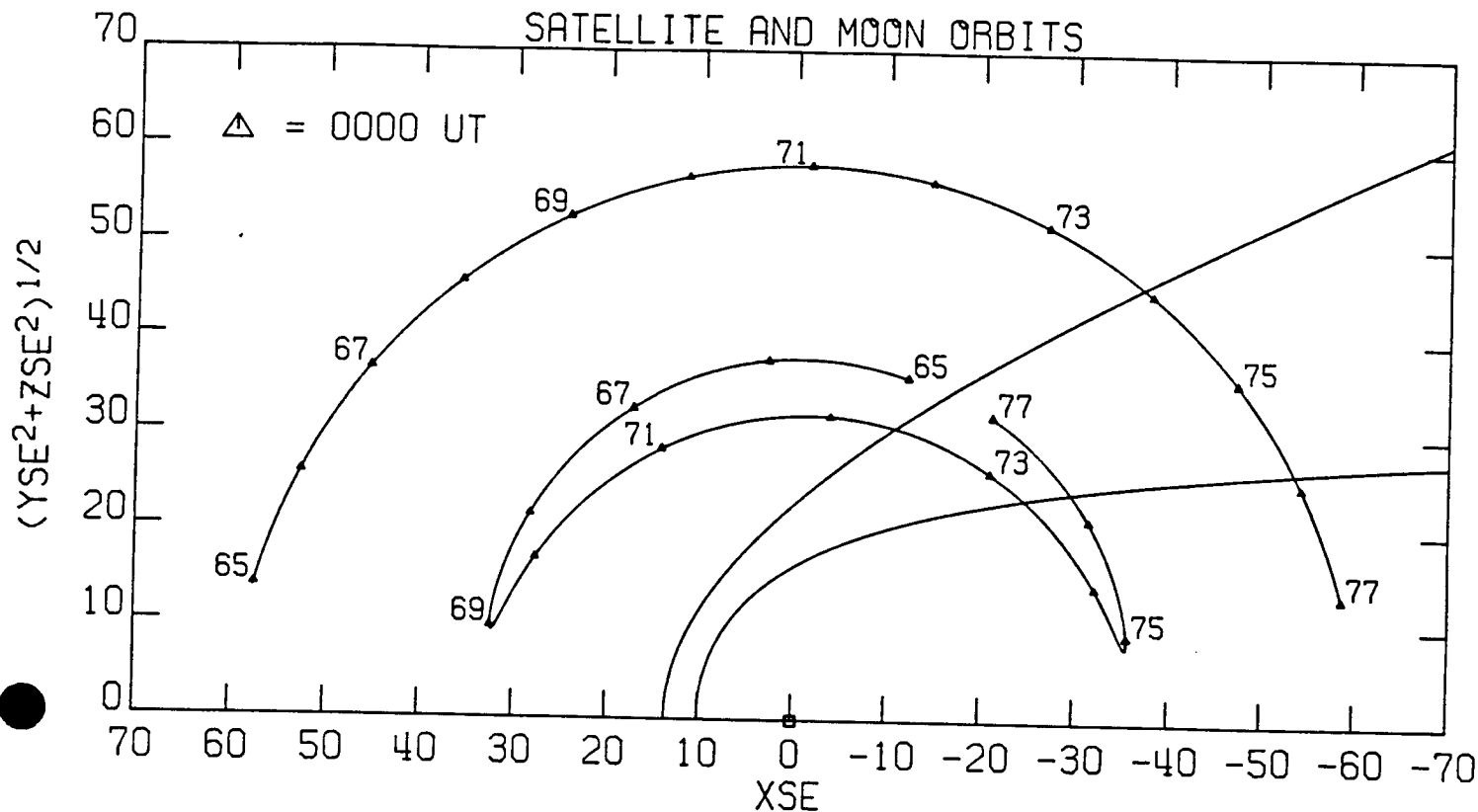
IMP 7 FROM MAR 5 TO MAR 18 1973



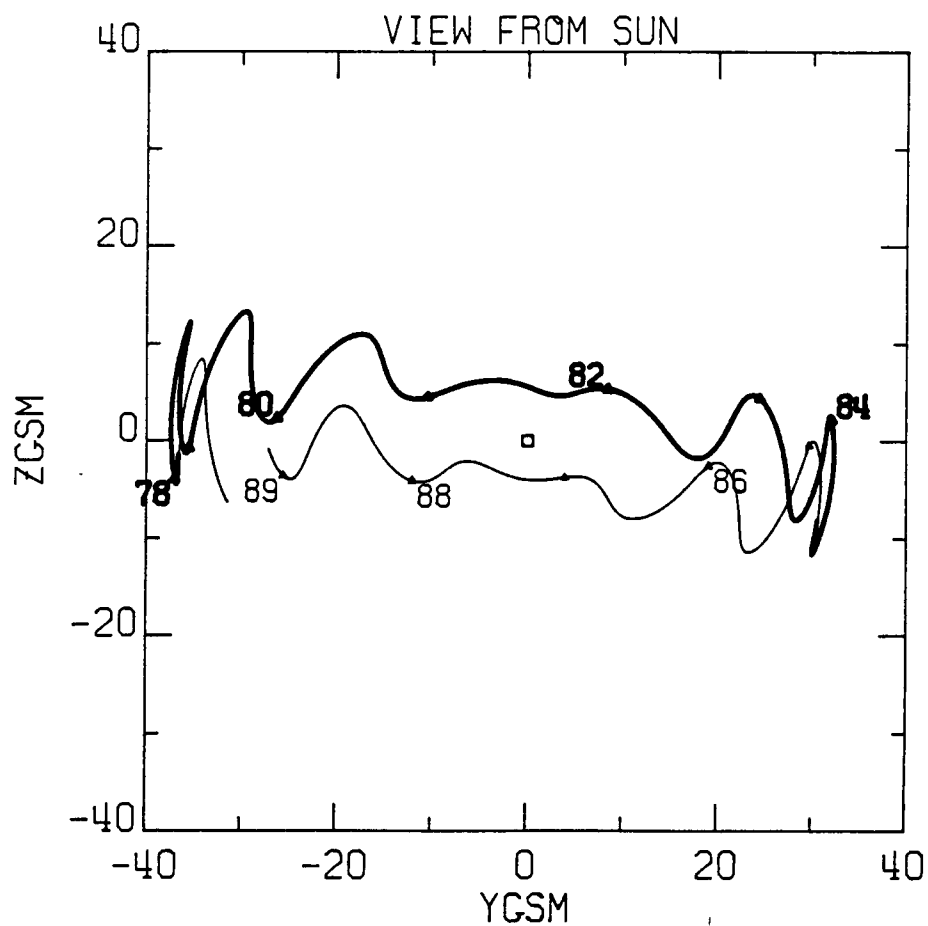
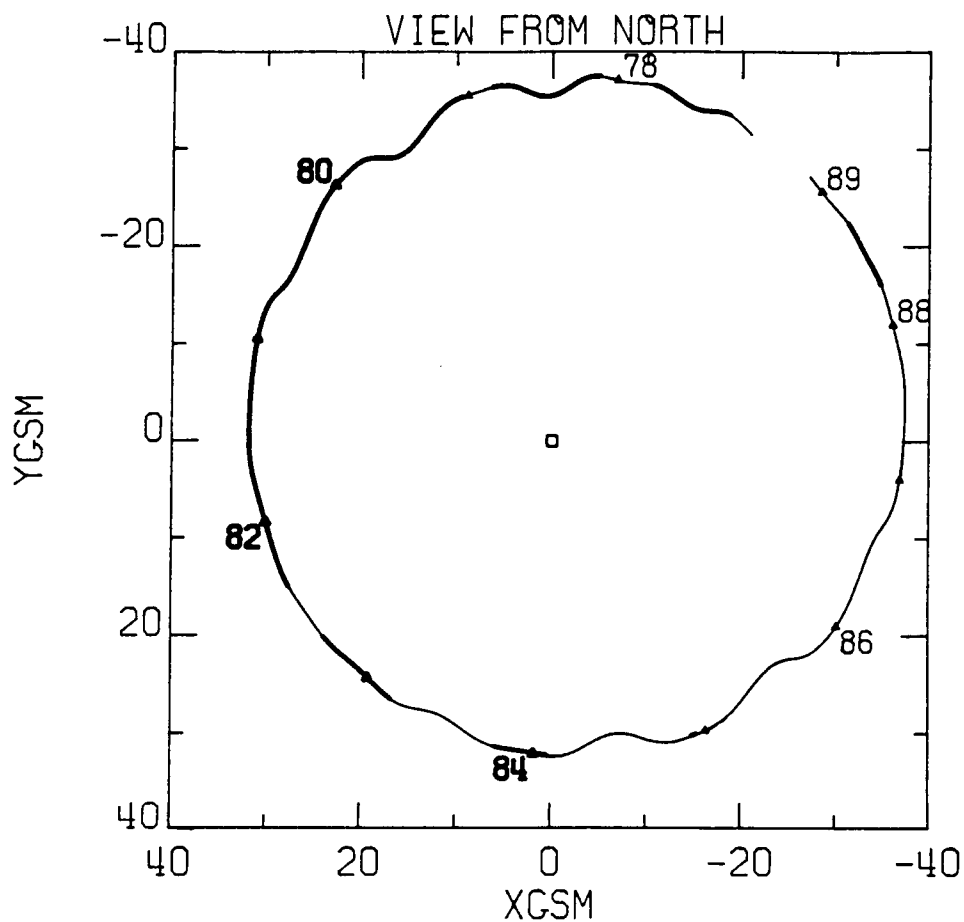
IMP 7 TRAJECTORY. ASCENDING NODE 14

FROM MAR 5 TO MAR 18 1973

DAYS 64 THRU 77



IMP 7 FROM MAR 18 TO MAR 30 1973

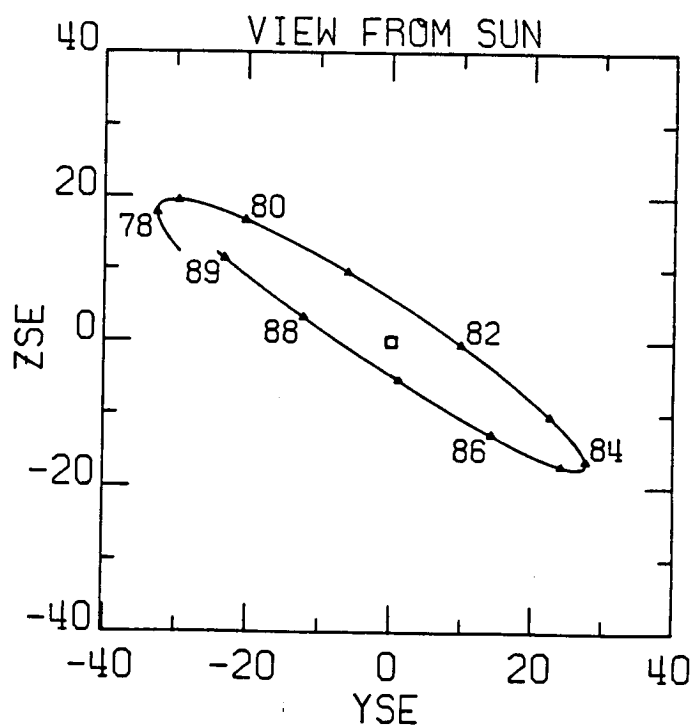
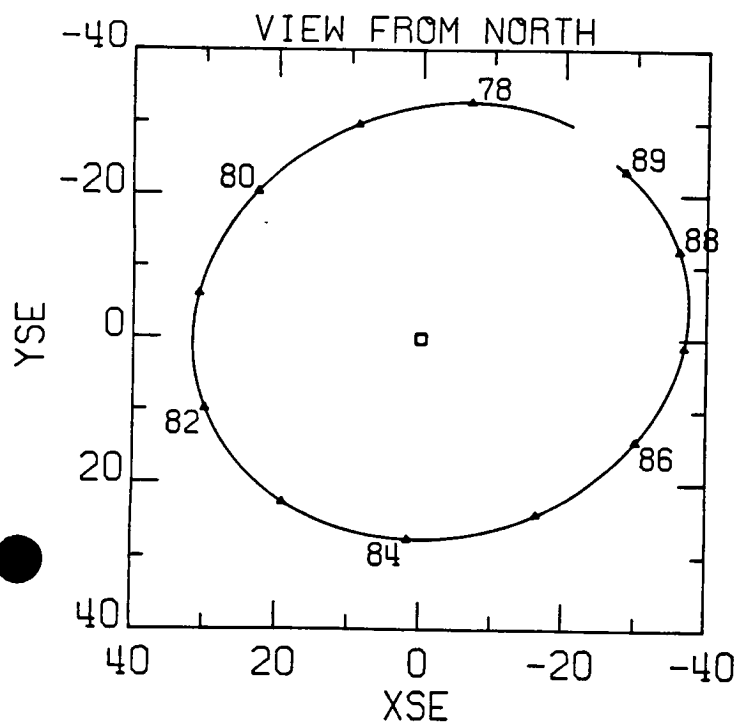
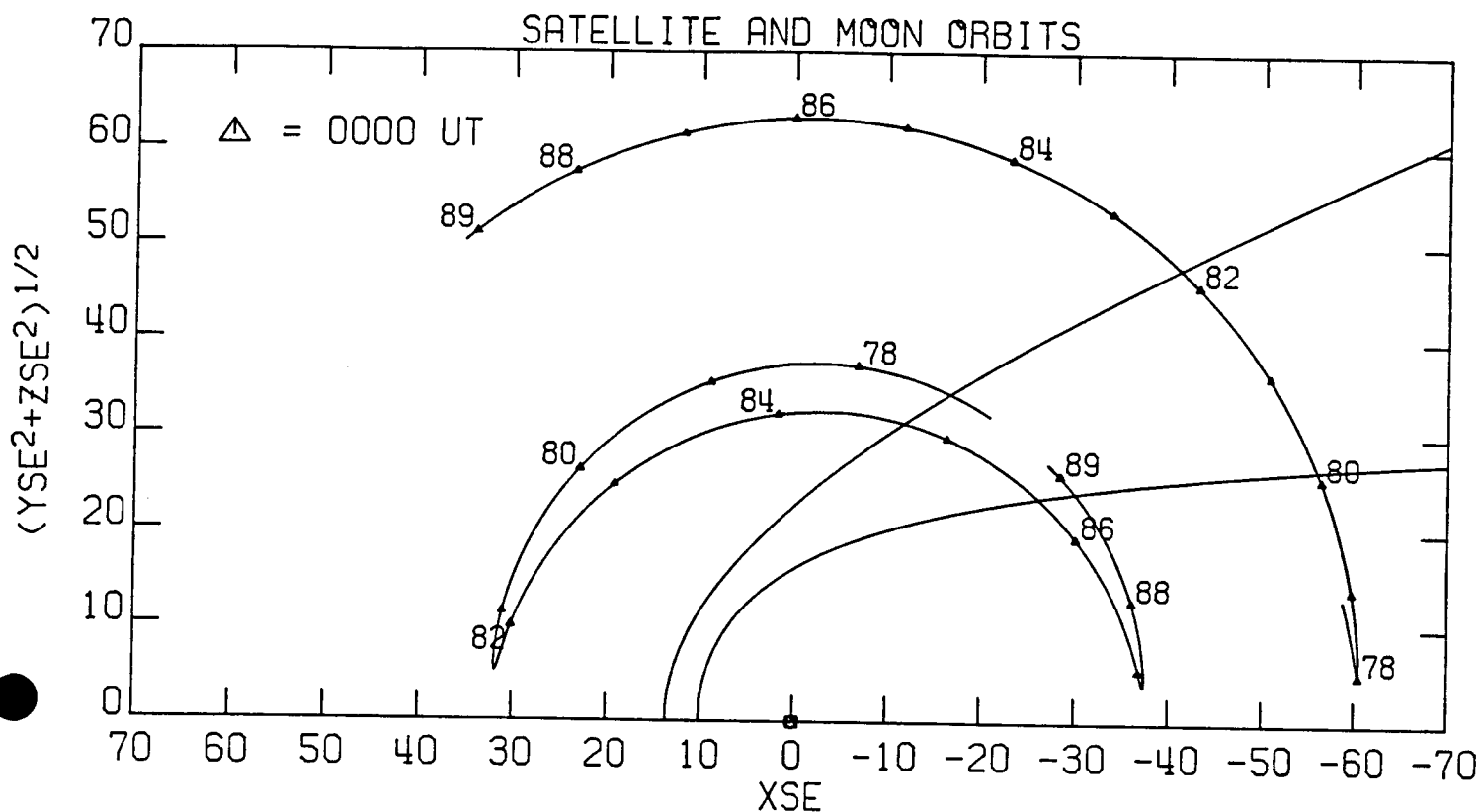


IMP 7 TRAJECTORY.

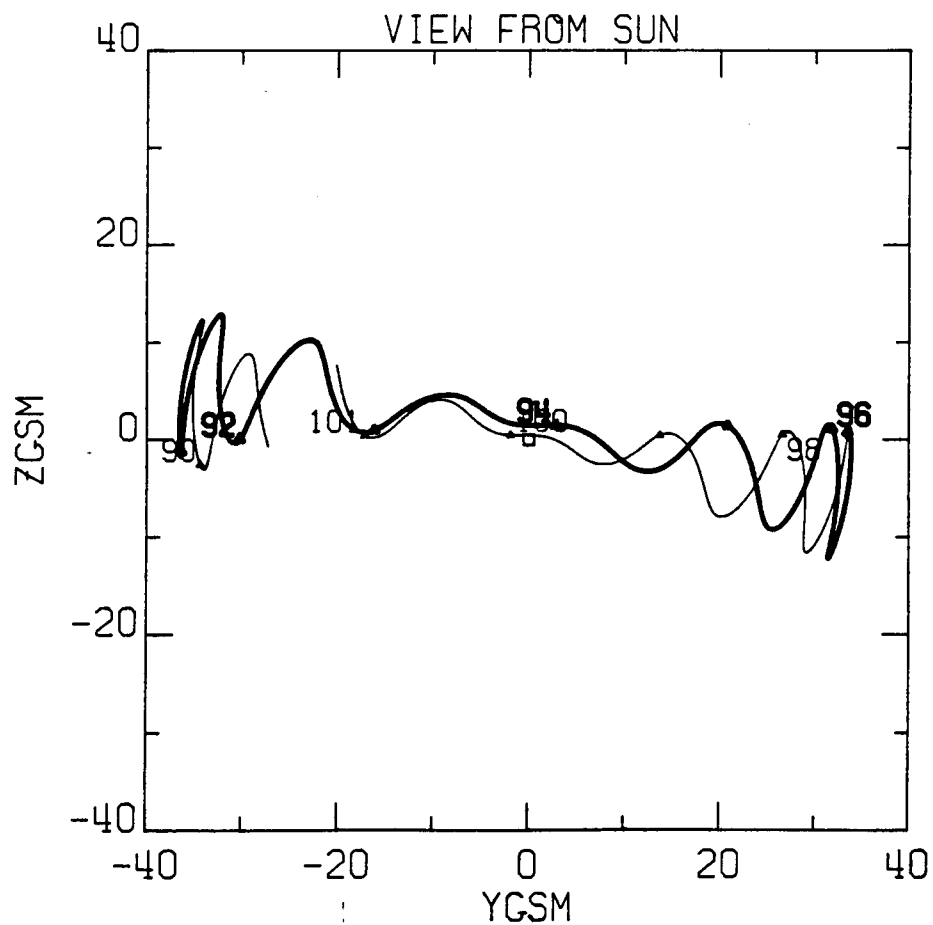
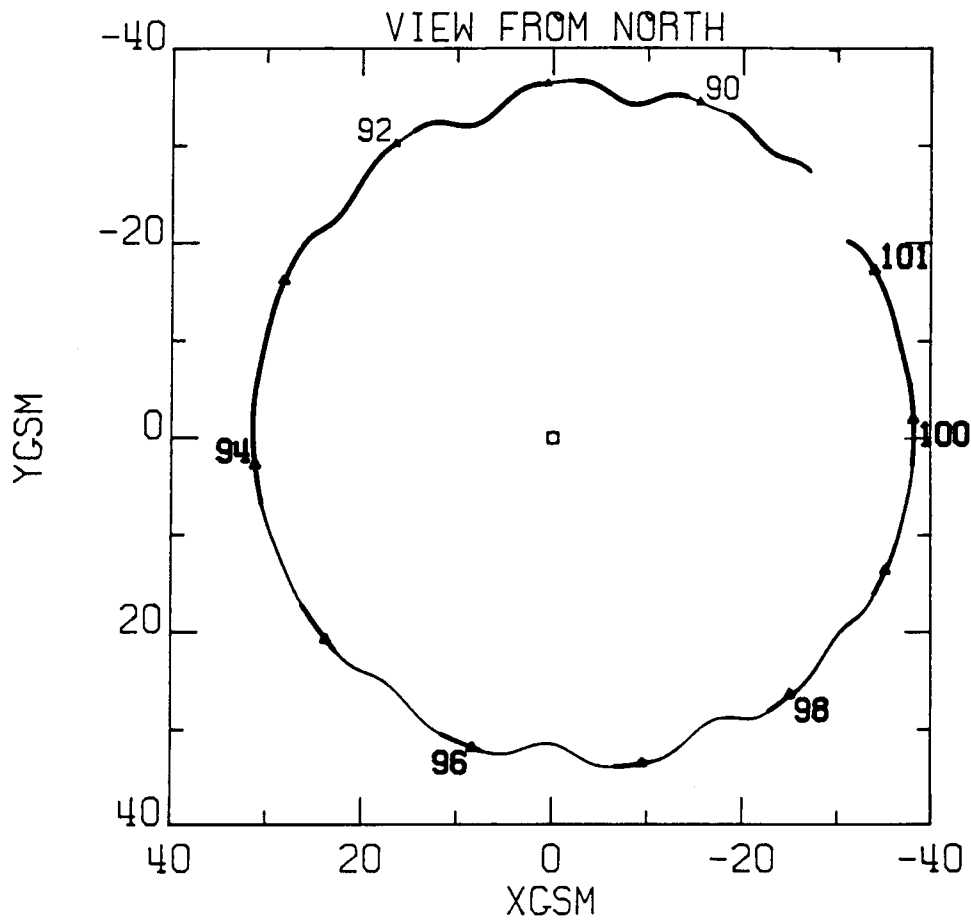
ASCENDING NODE 15

FROM MAR 18 TO MAR 30 1973

DAYS 77 THRU 89



IMP 7 FROM MAR 30 TO APR 11 1973

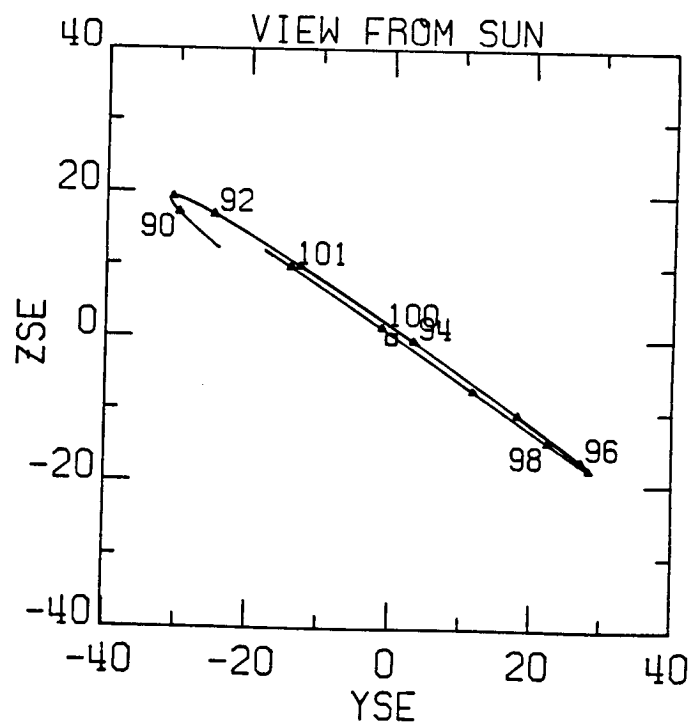
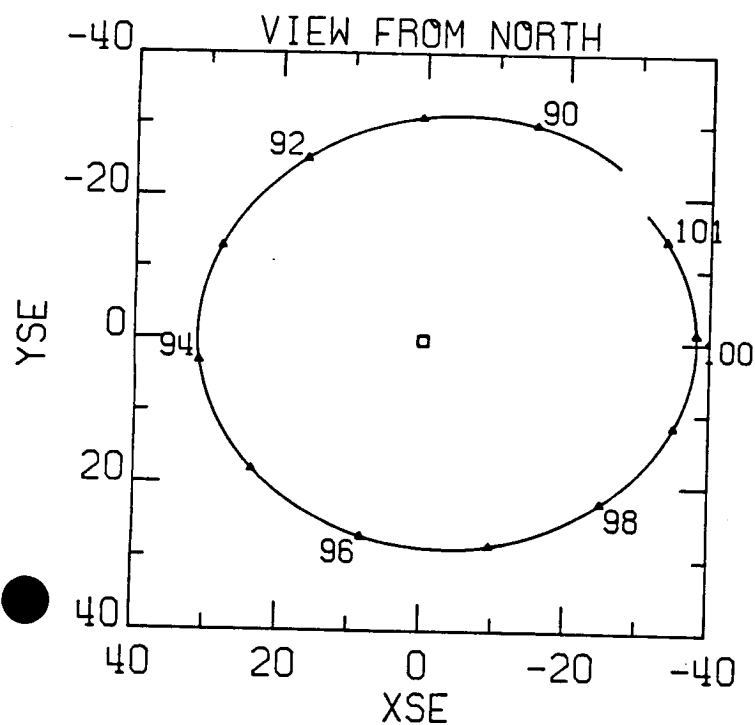
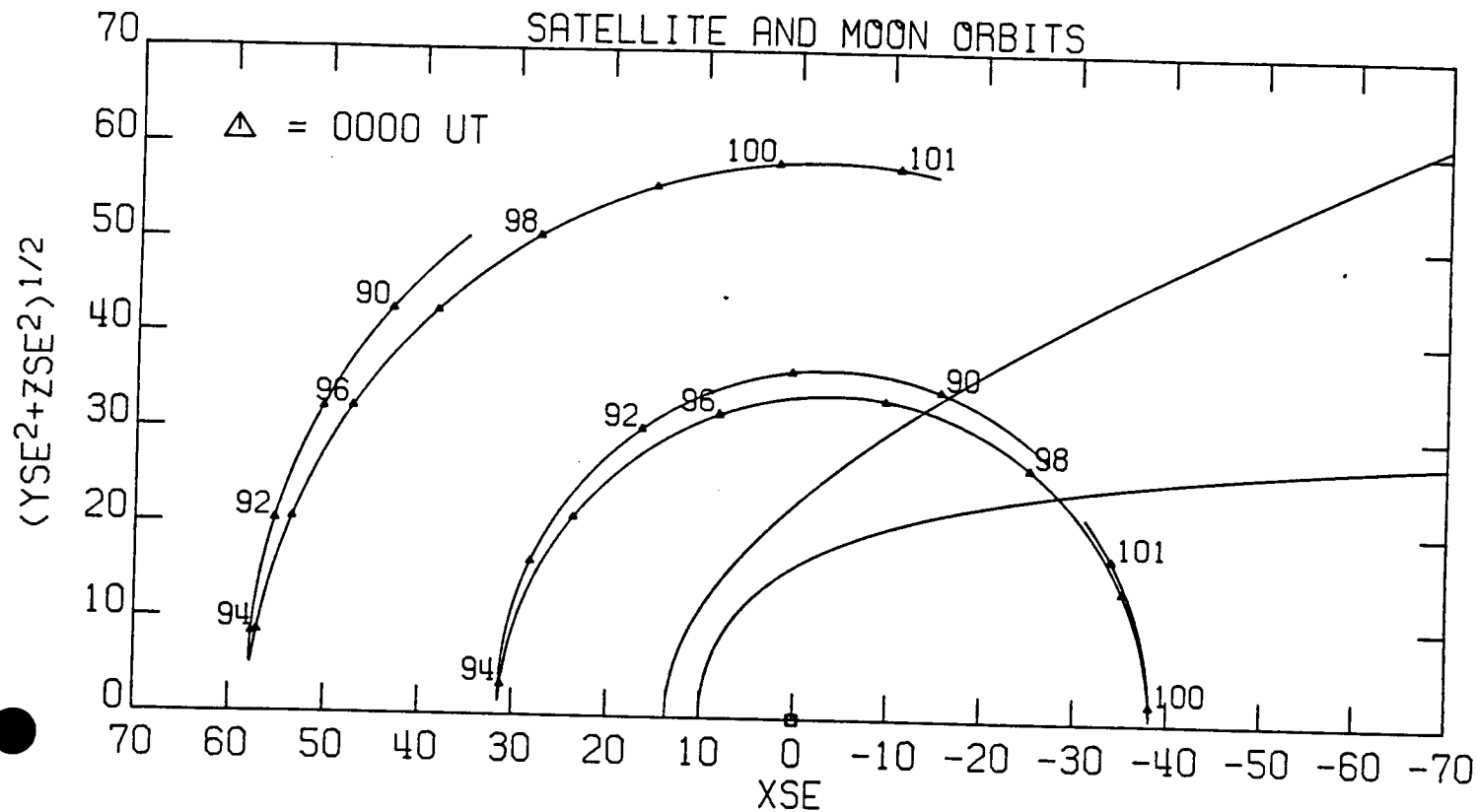


IMP 7 TRAJECTORY.

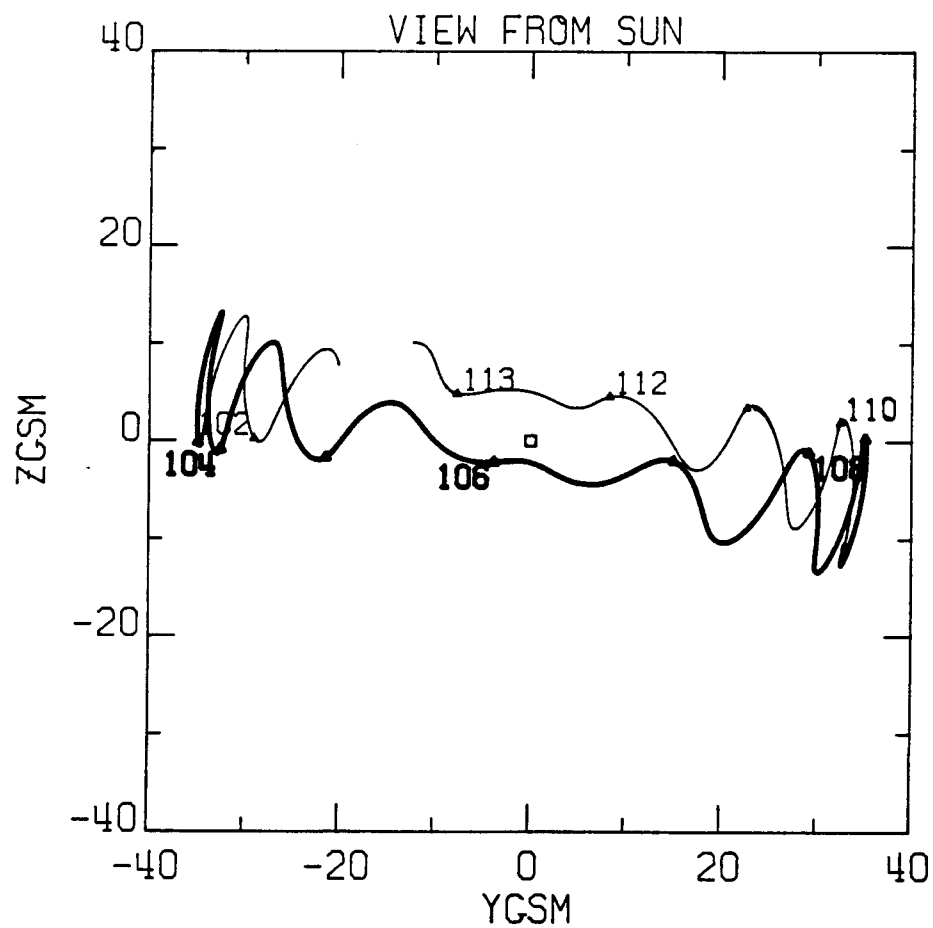
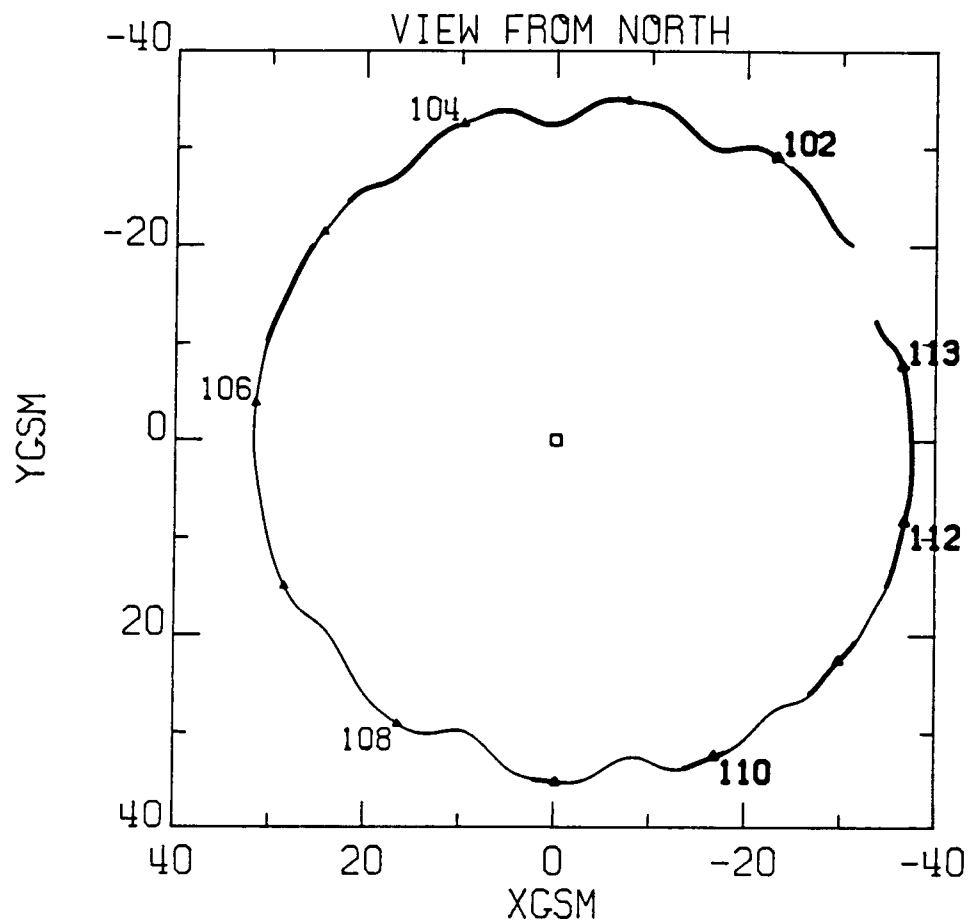
ASCENDING NODE 16

FROM MAR 30 TO APR 11 1973

DAYS 89 THRU 101



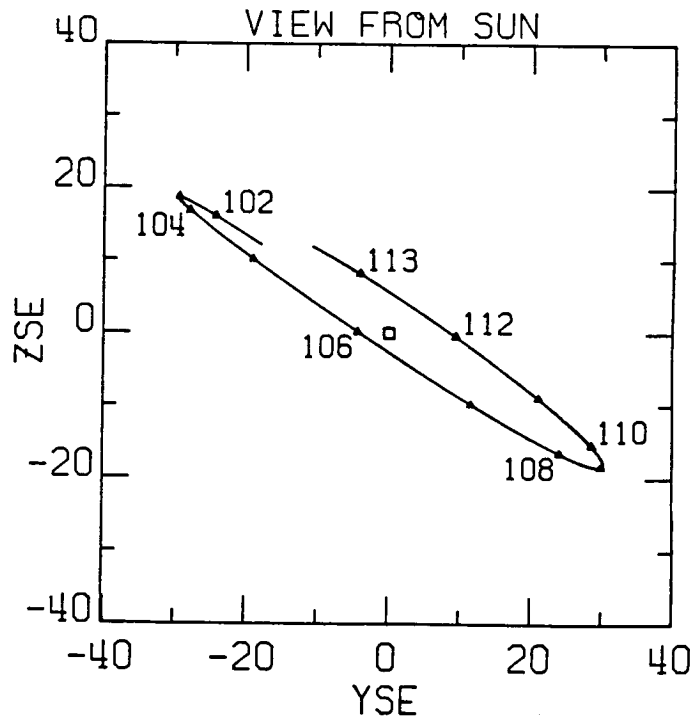
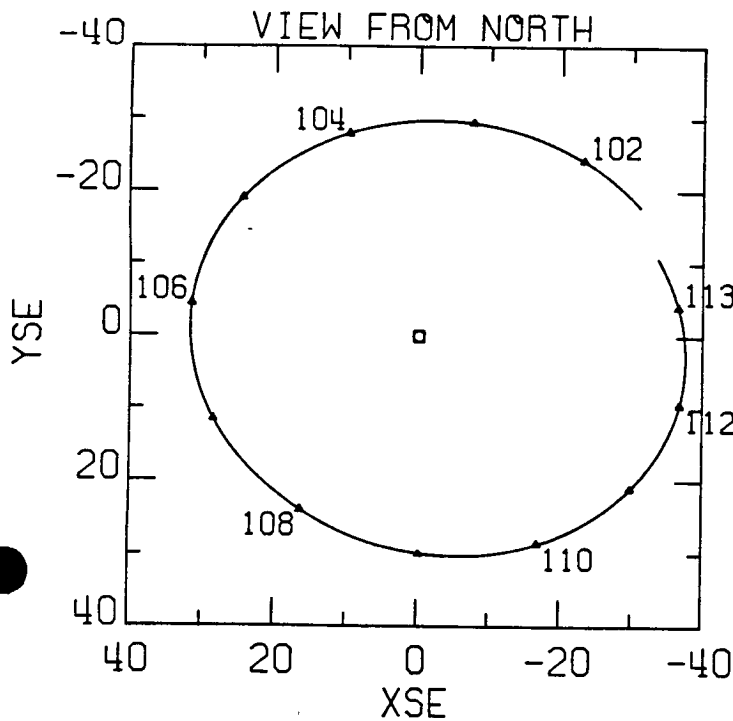
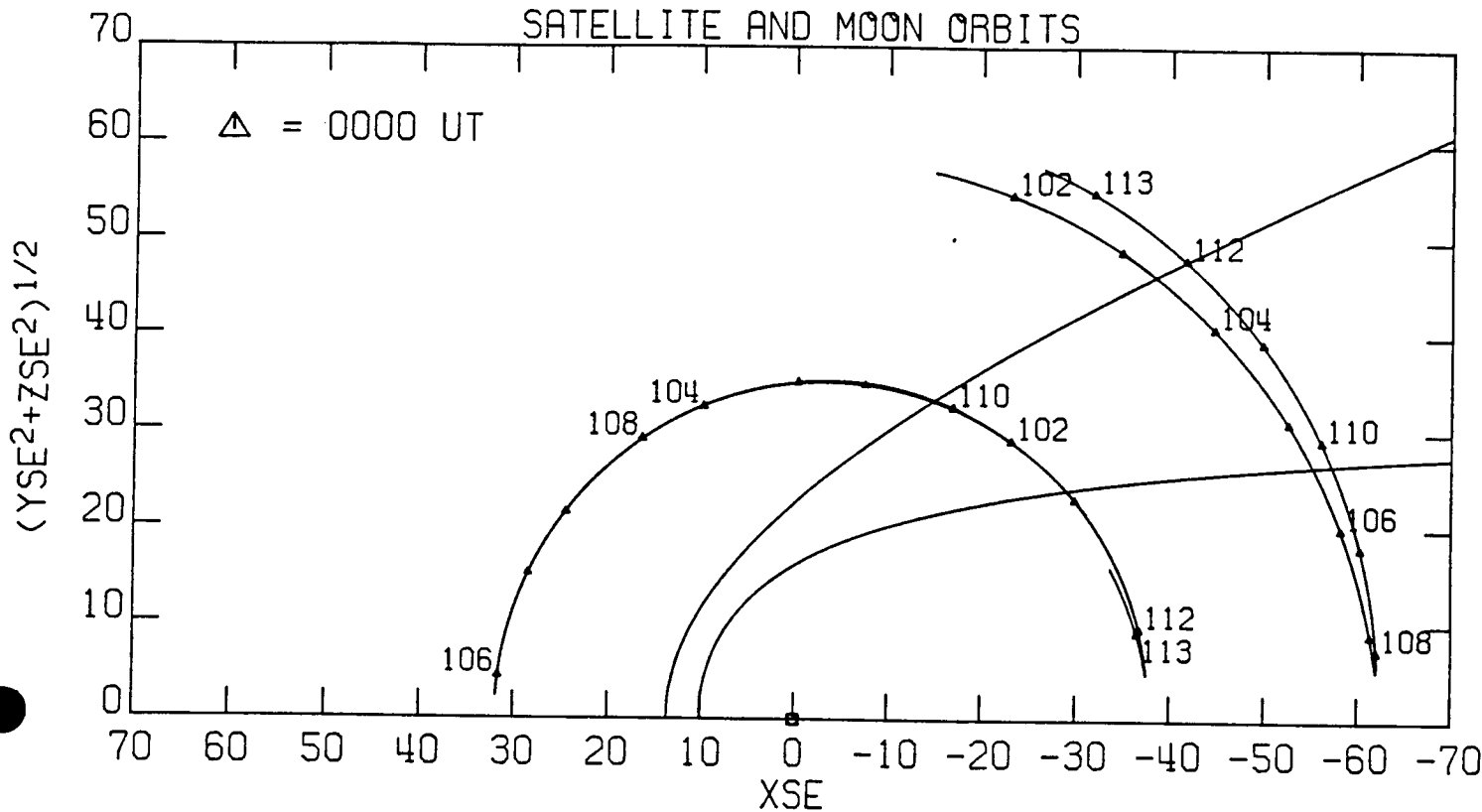
IMP 7 FROM APR 11 TO APR 23 1973



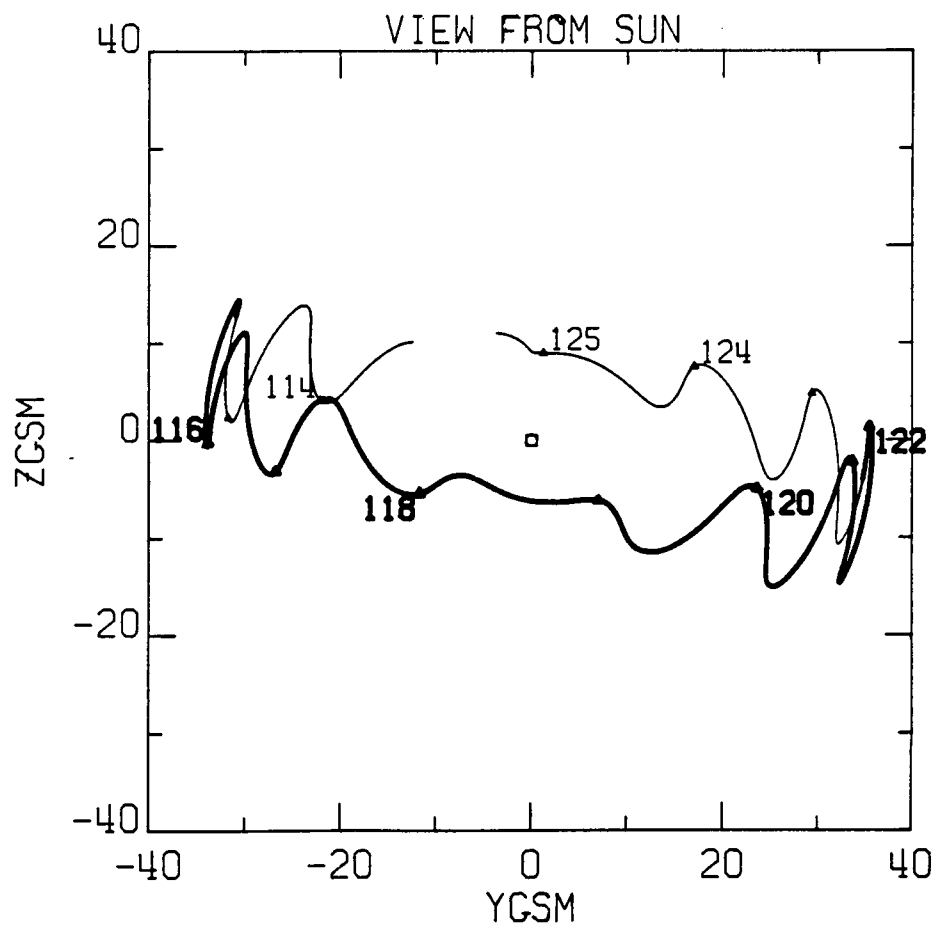
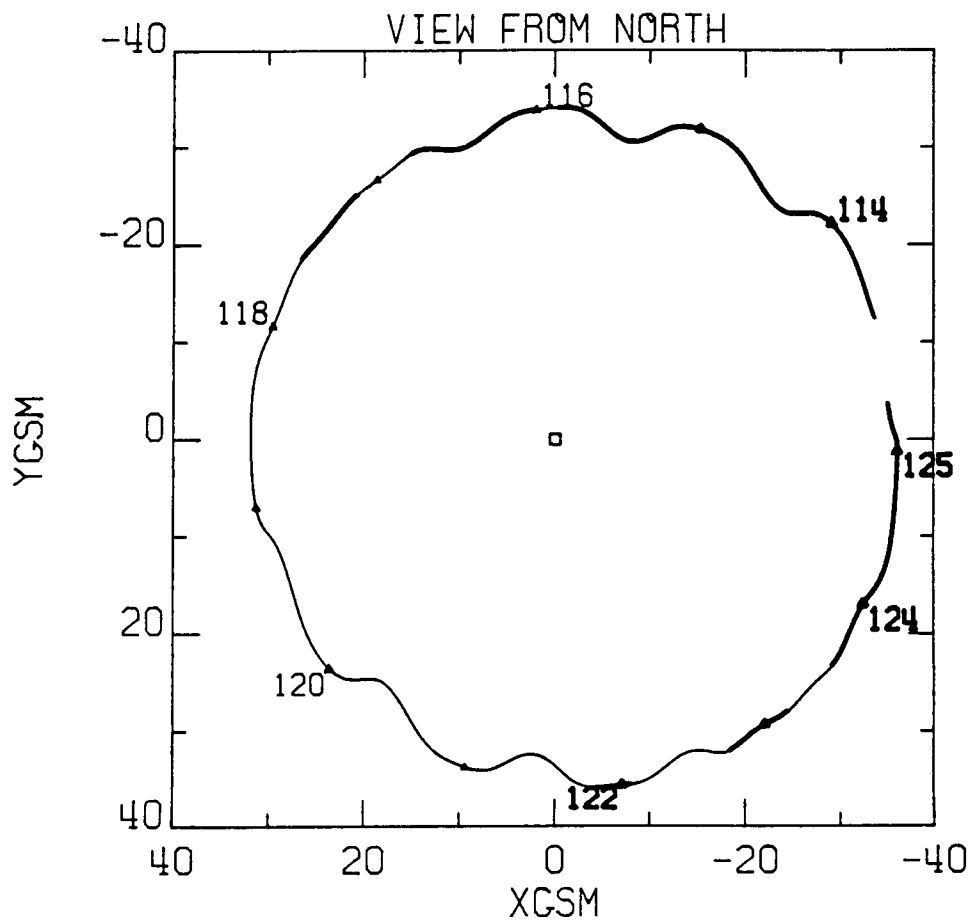
ASCENDING NODE 17

FROM APR 11 TO APR 23 1973

DAYS 101 THRU 113

[illegible]

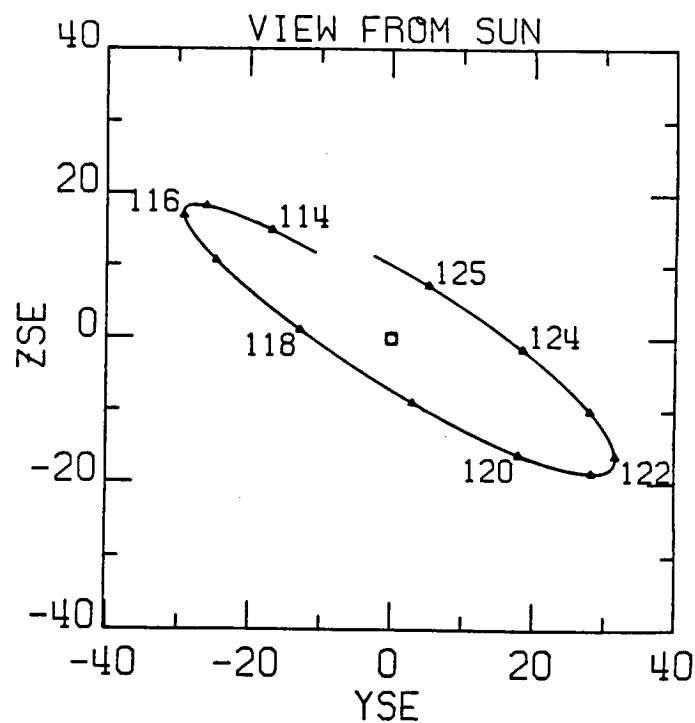
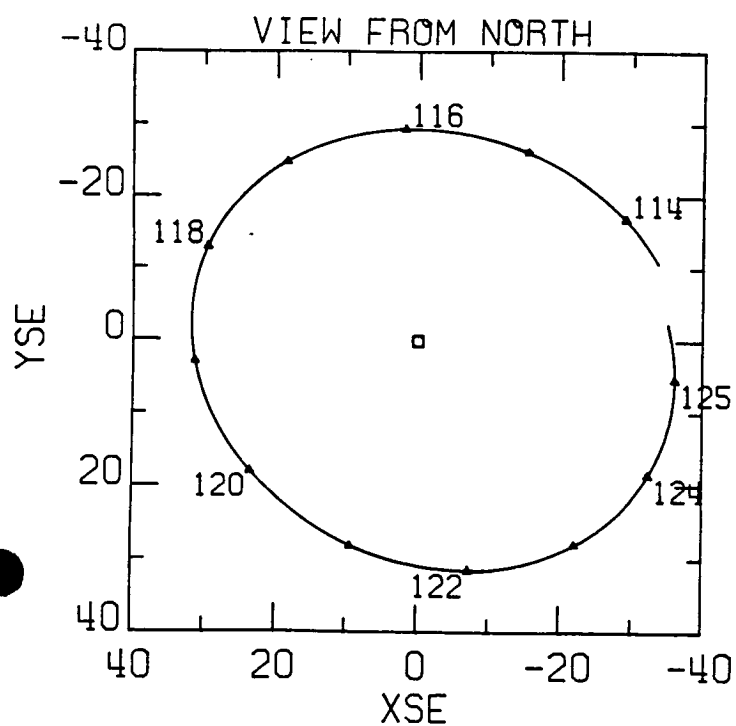
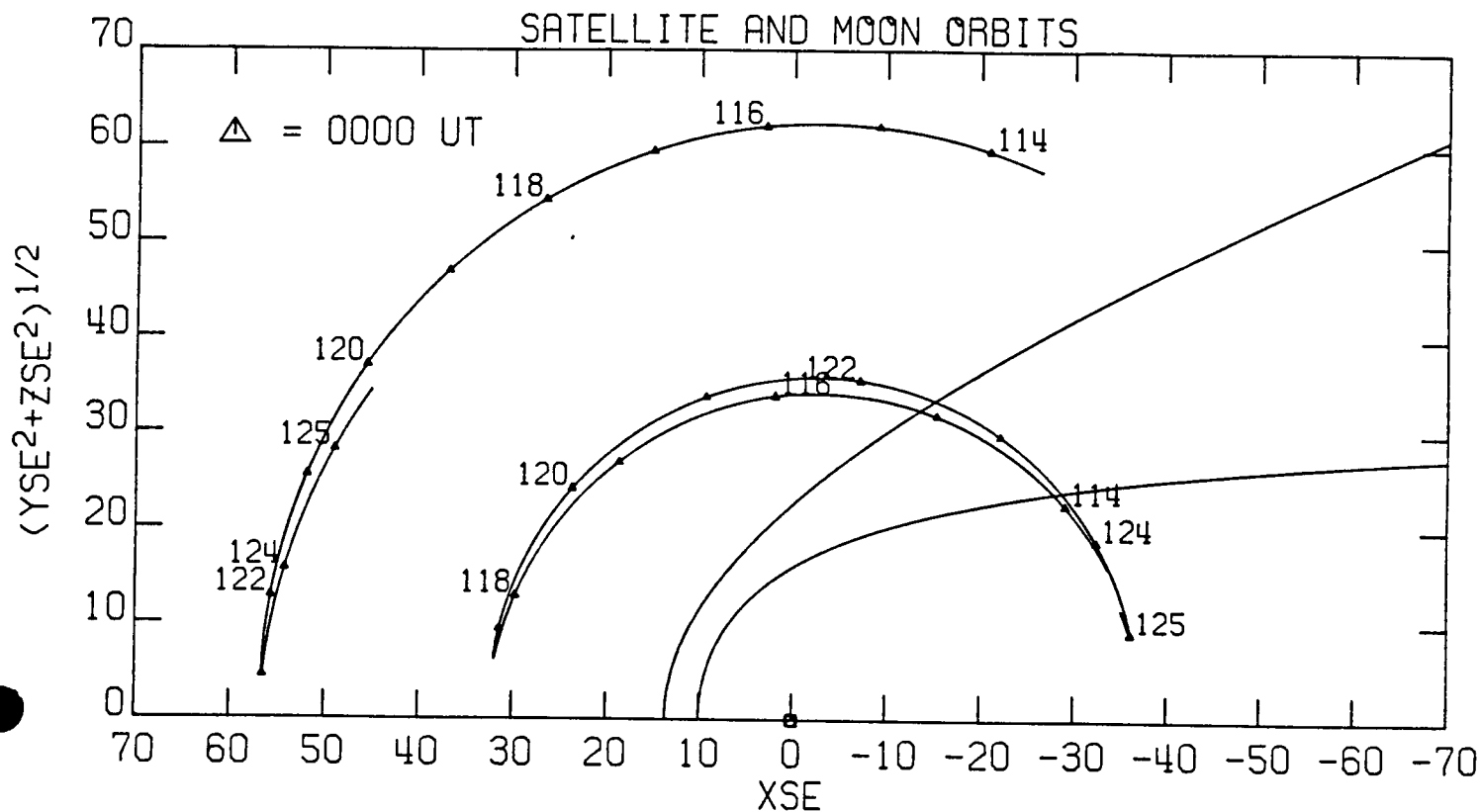
IMP 7 FROM APR 23 TO MAY 5 1973



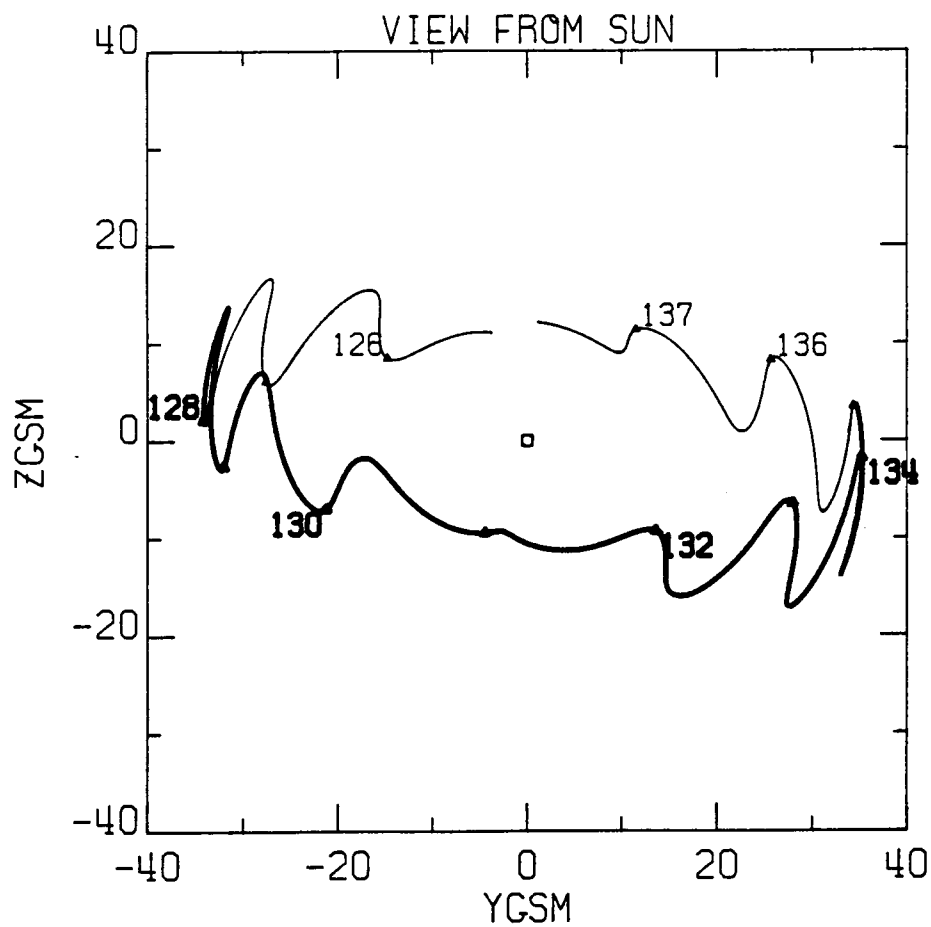
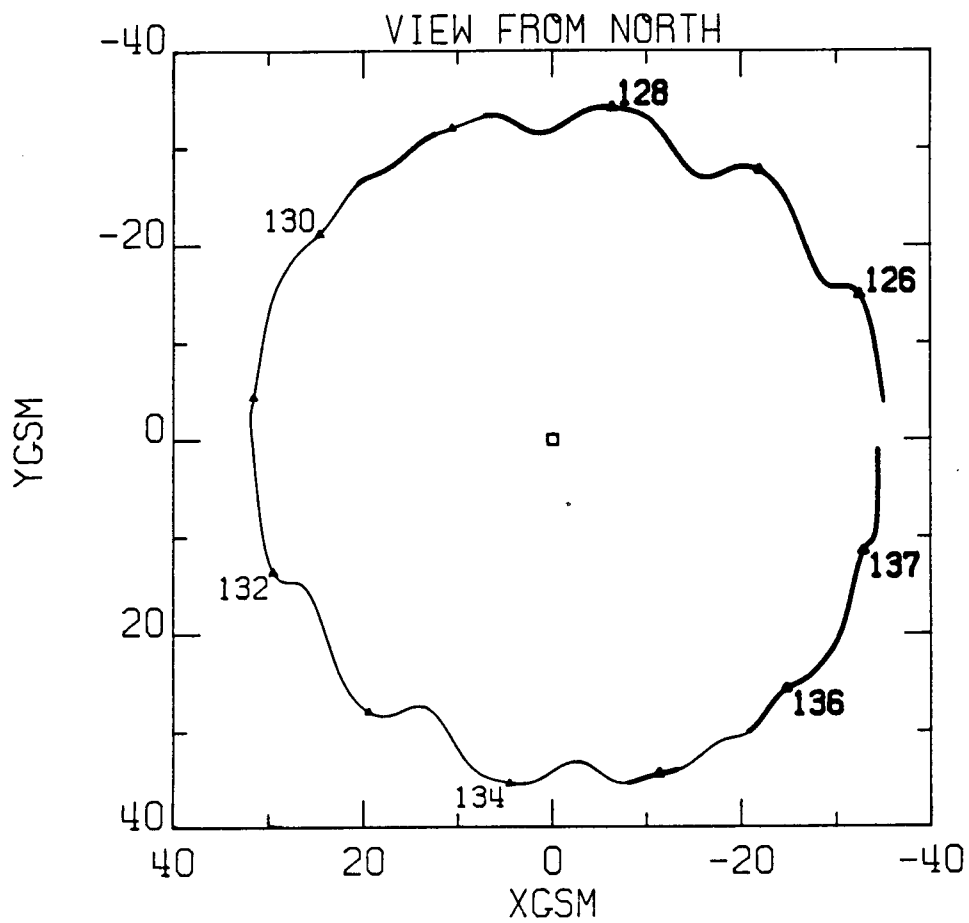
IMP 7 TRAJECTORY. ASCENDING NODE 18

FROM APR 23 TO MAY 5 1973

DAYS 113 THRU 125



IMP 7 FROM MAY 5 TO MAY 17 1973

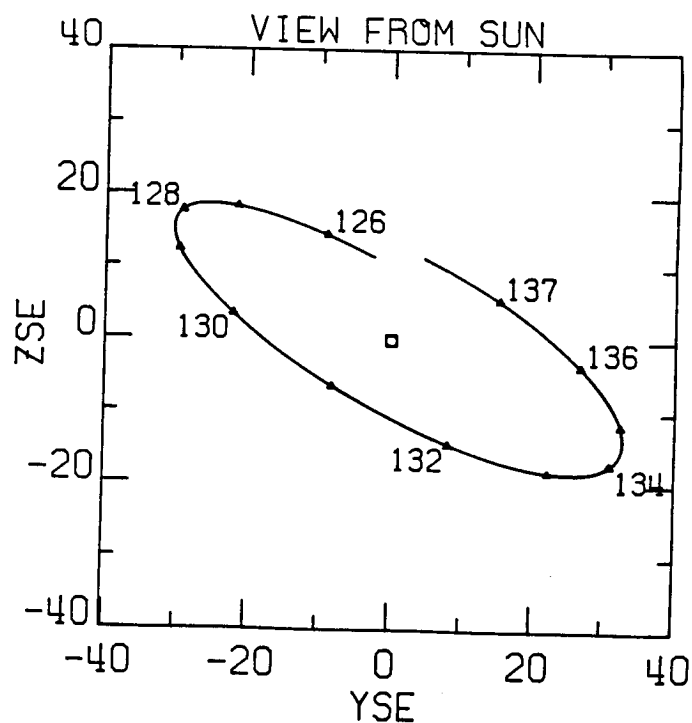
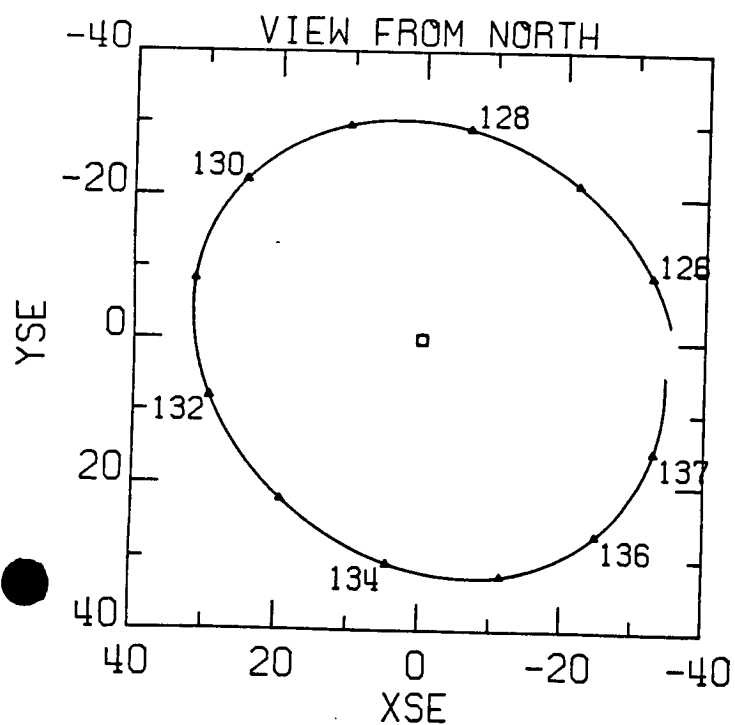
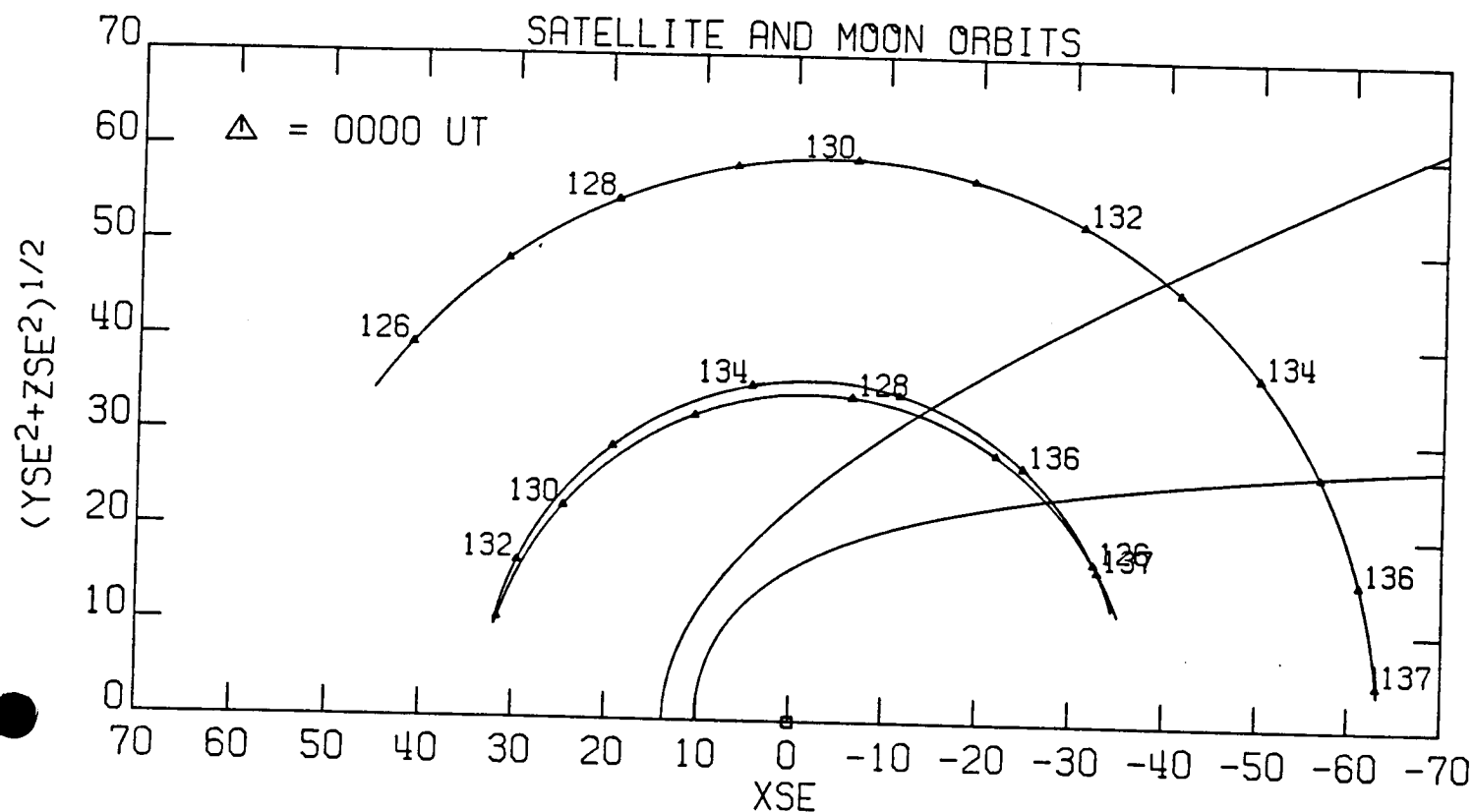


IMP 7 TRAJECTORY.

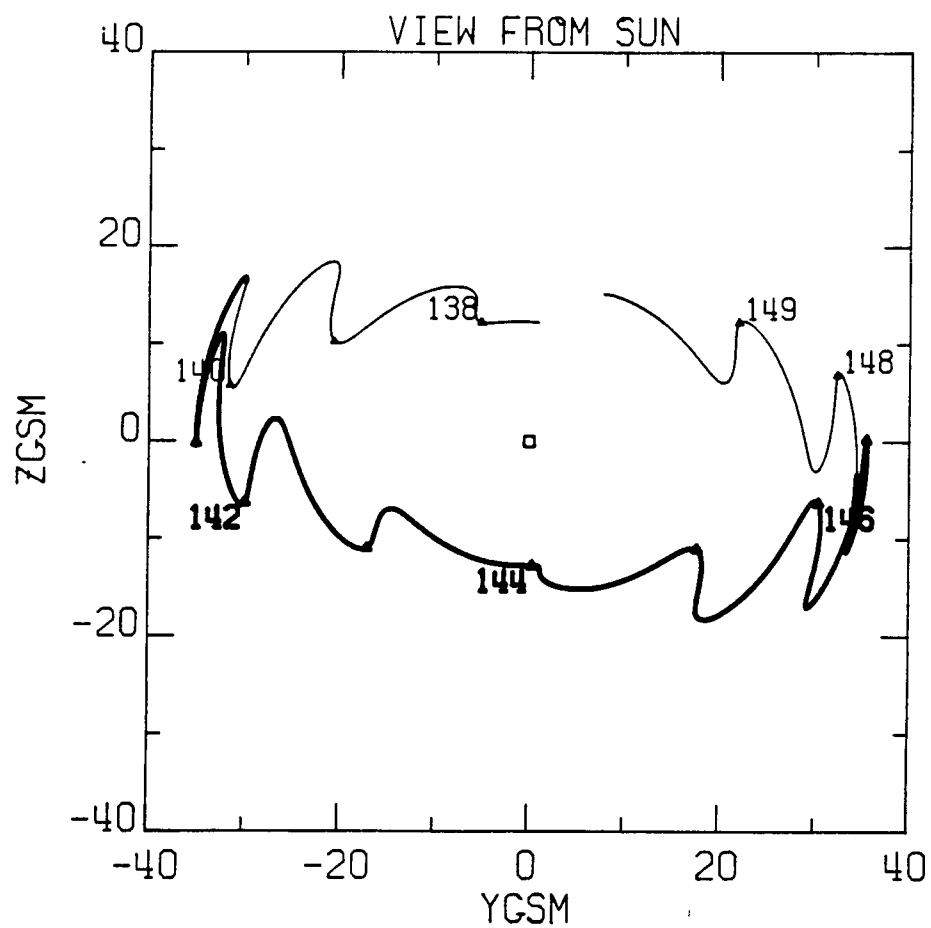
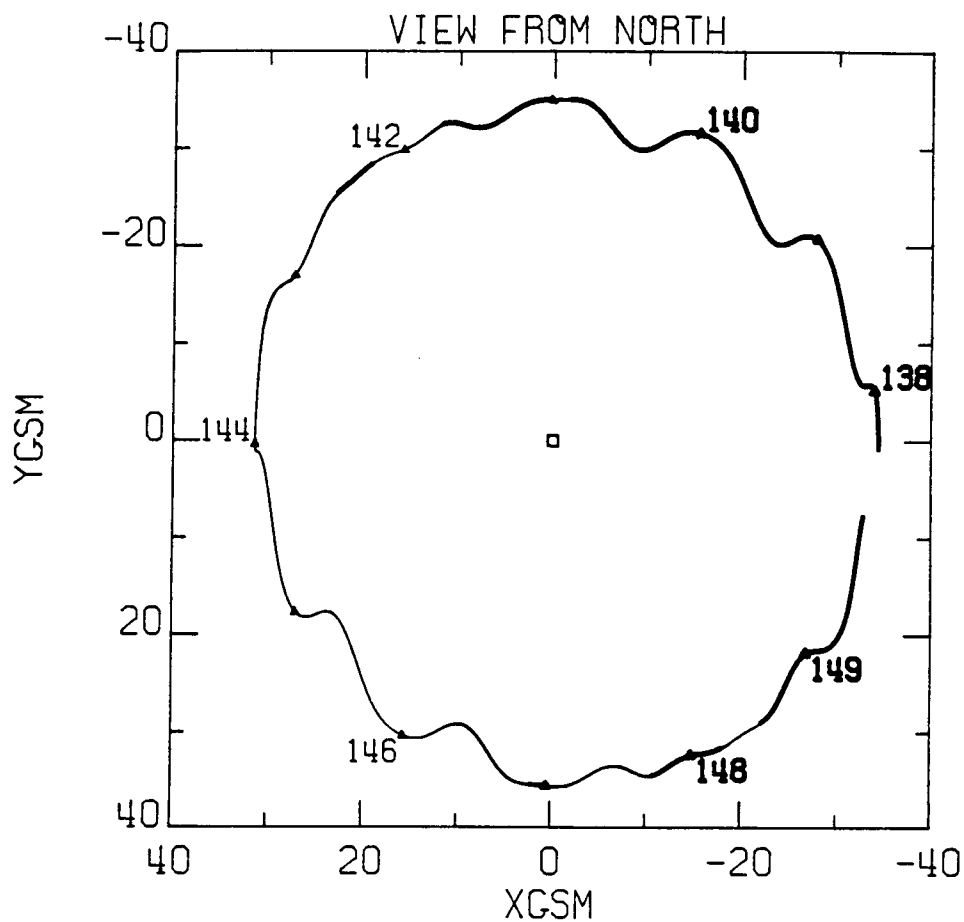
ASCENDING NODE 19

FROM MAY 5 TO MAY 17 1973

DAYS 125 THRU 137



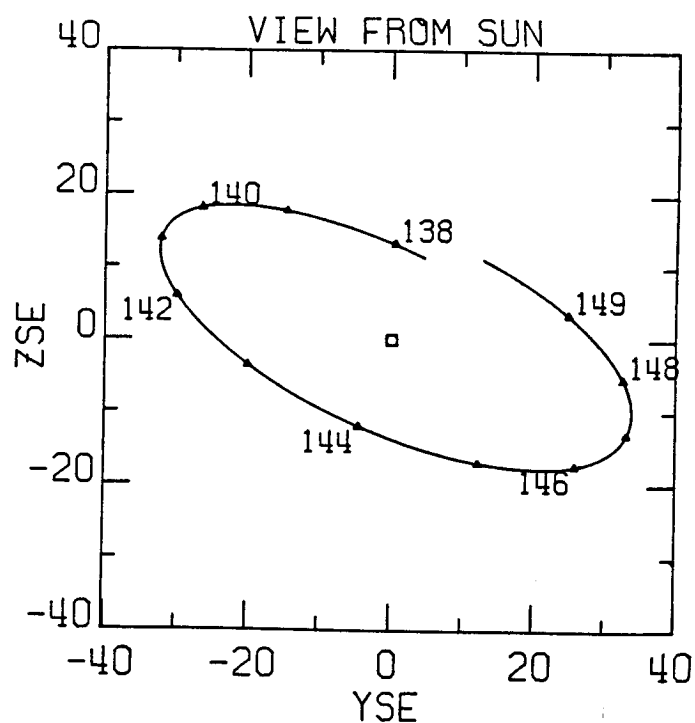
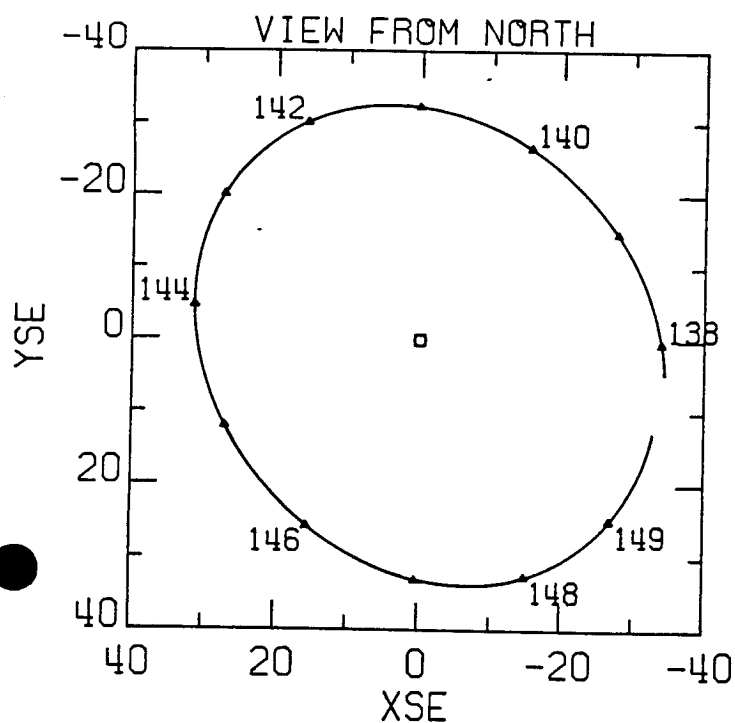
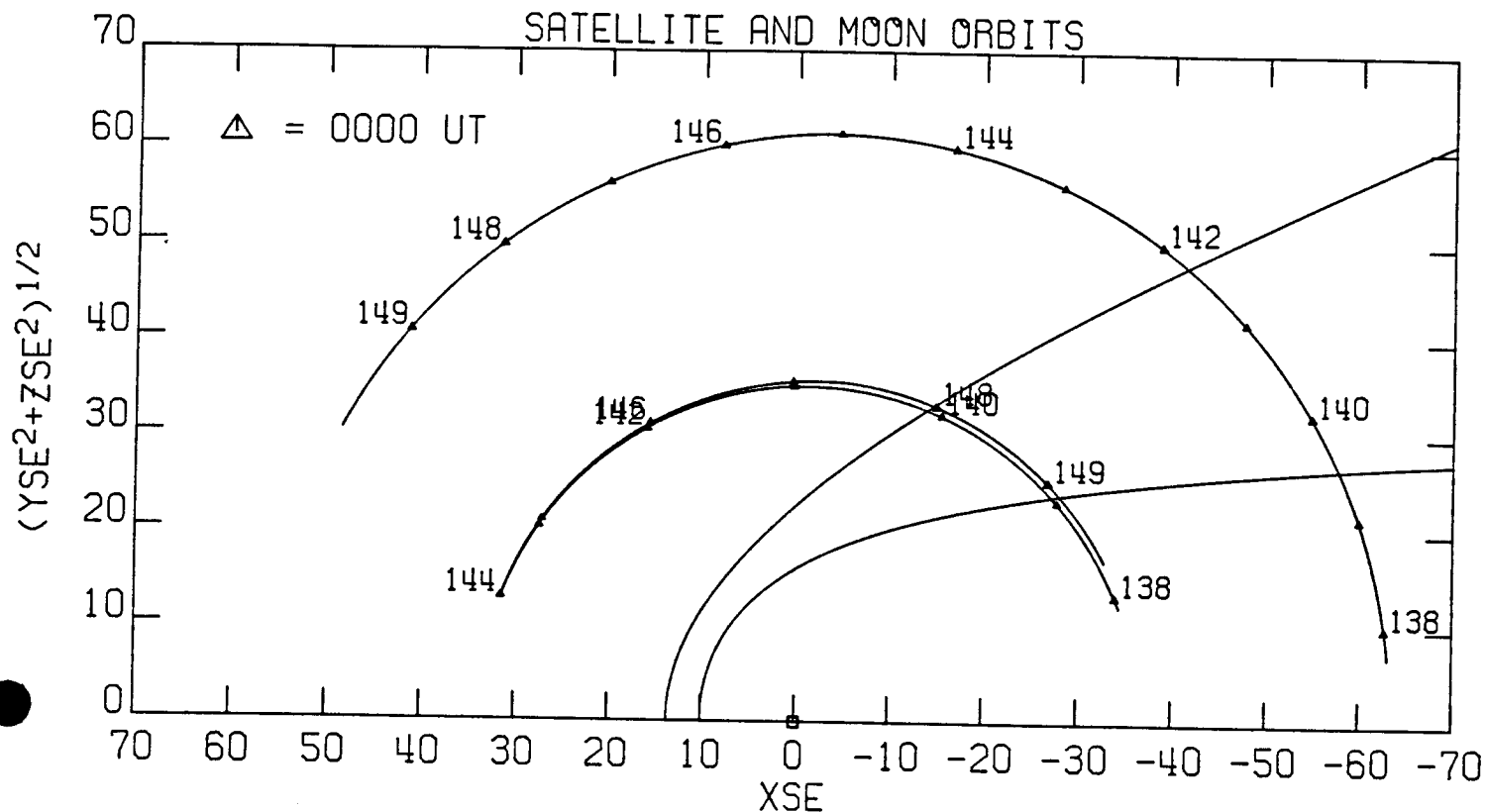
IMP 7 FROM MAY 17 TO MAY 29 1973



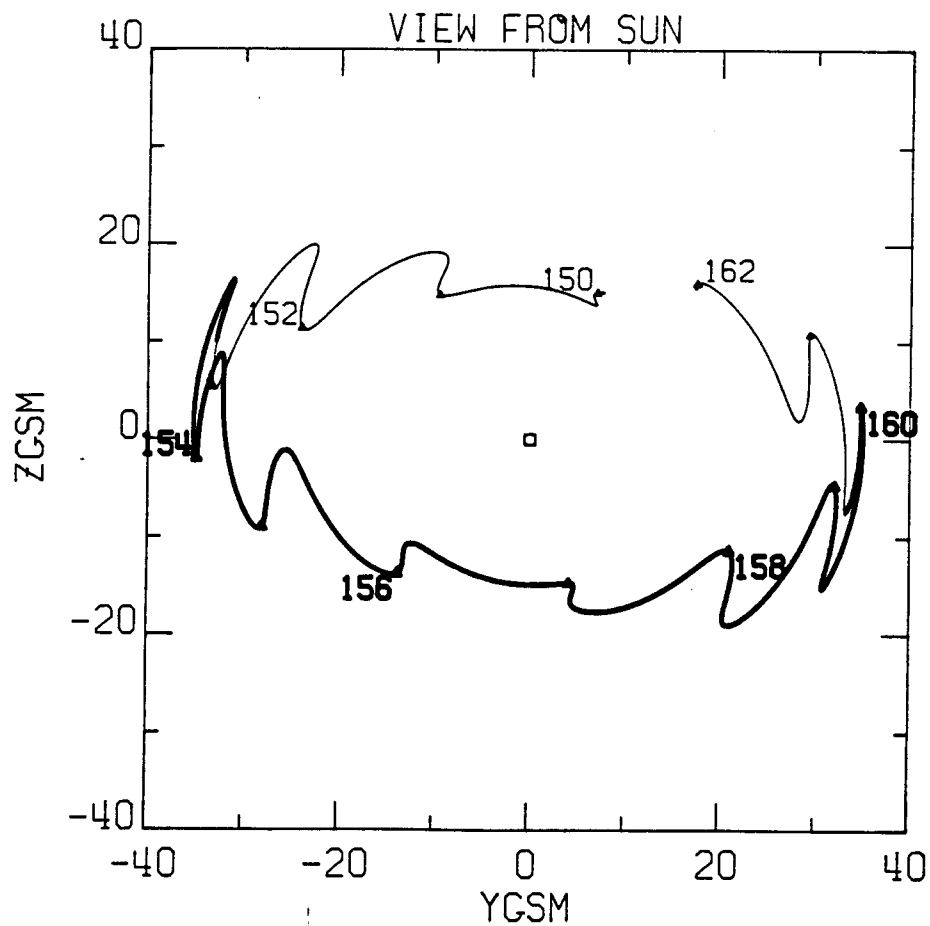
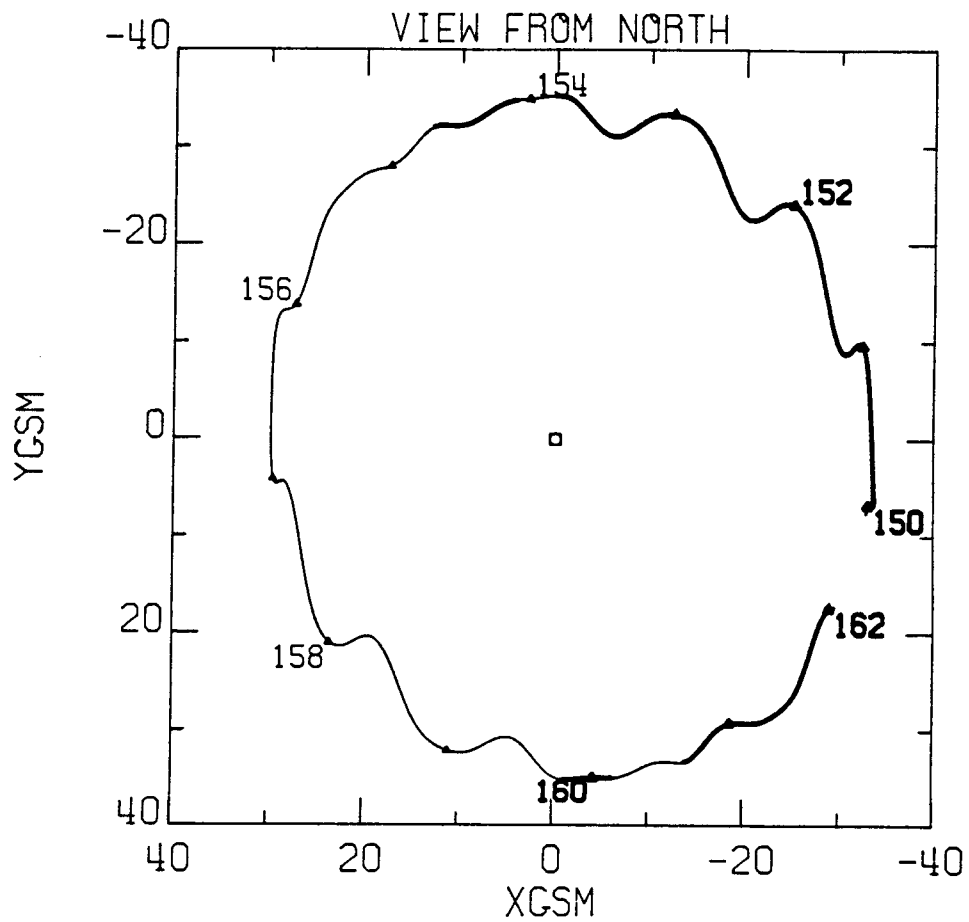
IMP 7 TRAJECTORY. ASCENDING NODE 20

FROM MAY 17 TO MAY 29 1973

DAYS 137 THRU 149



IMP 7 FROM MAY 29 TO JUN 11 1973



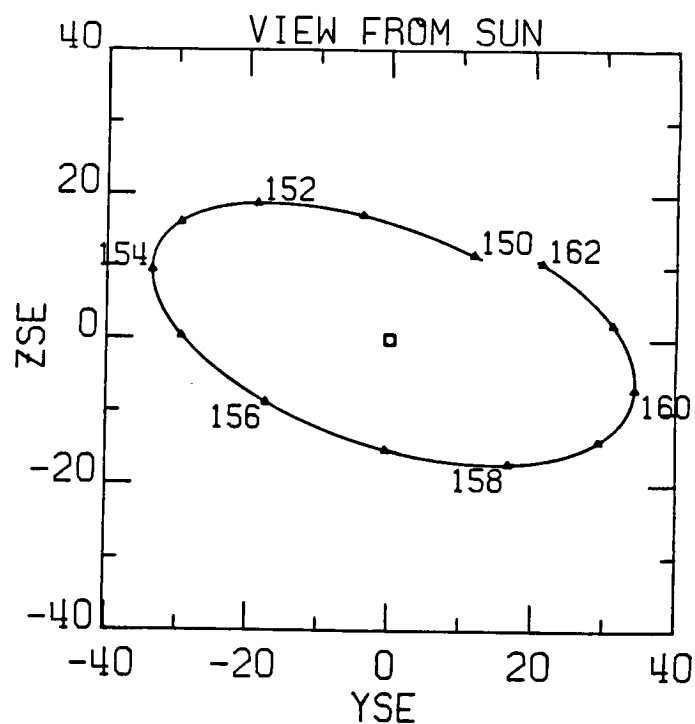
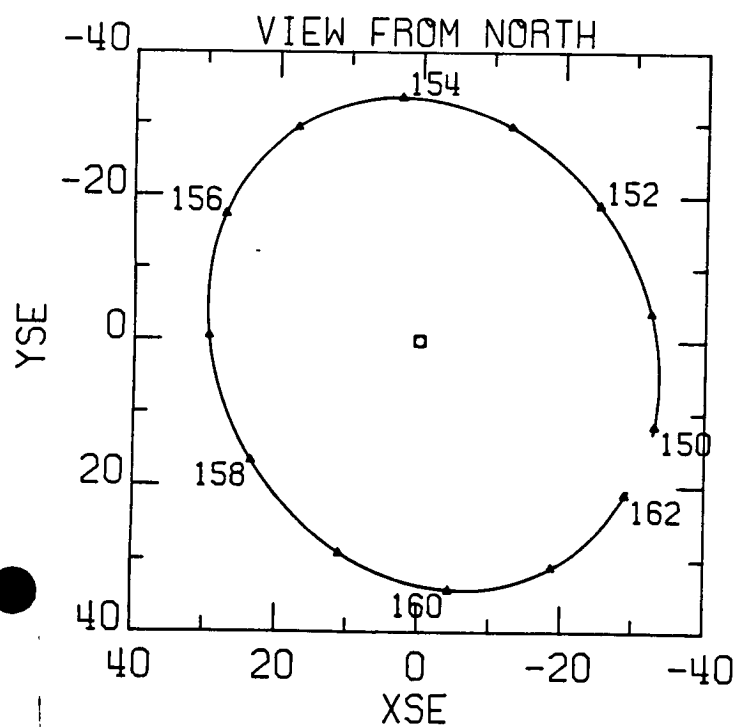
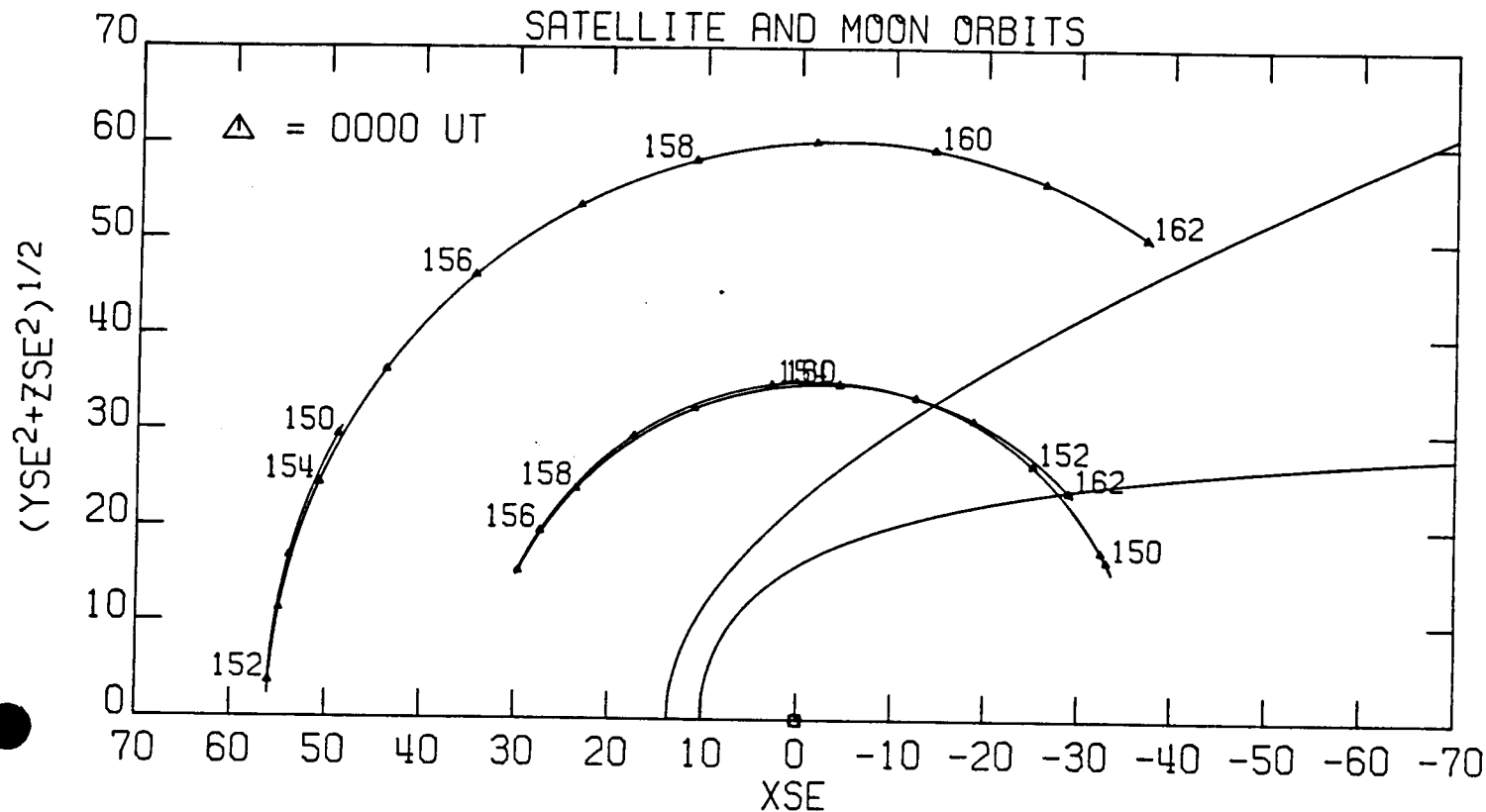
IMP 7 TRAJECTORY.

ASCENDING NODE 21

FROM MAY 29 TO JUN 11 1973

DAYS 149 THRU 162

SATELLITE AND MOON ORBITS



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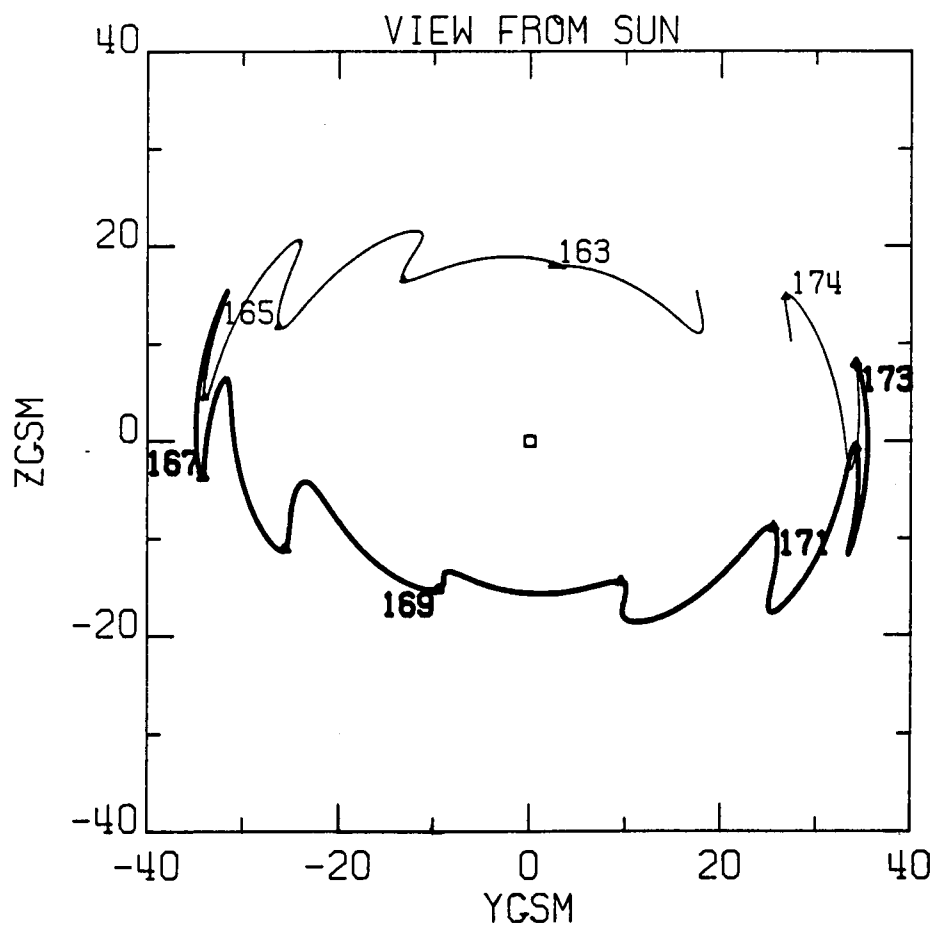
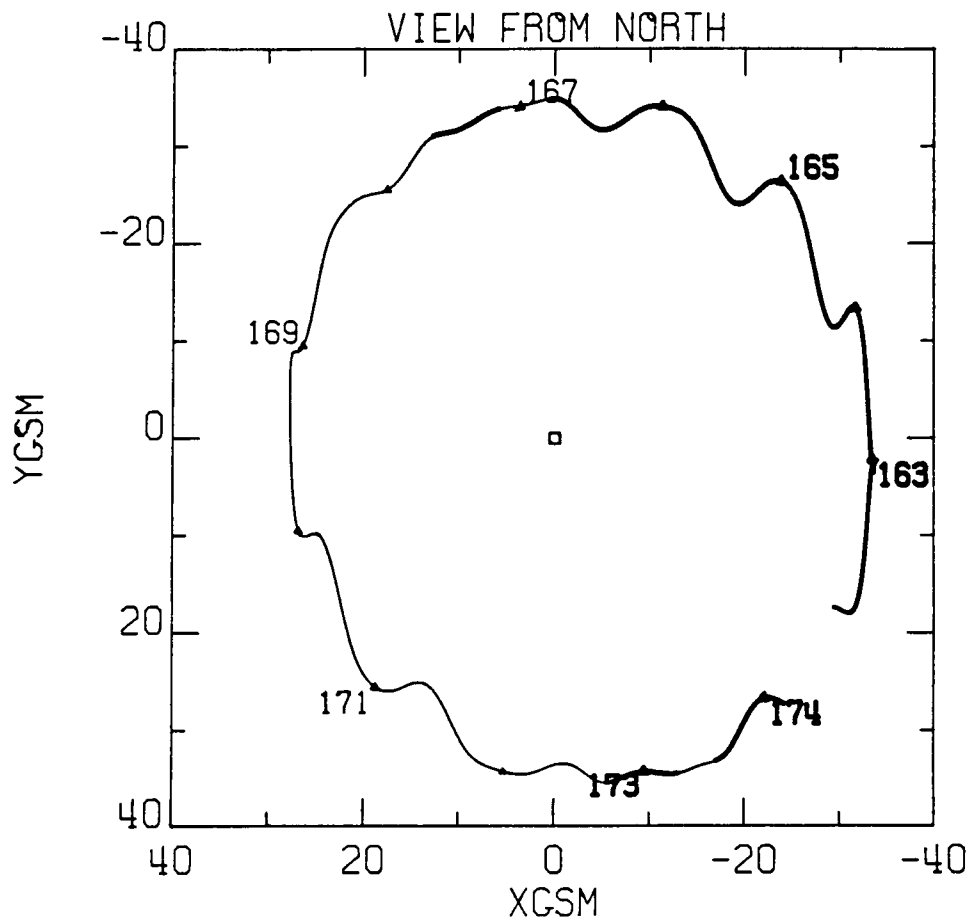
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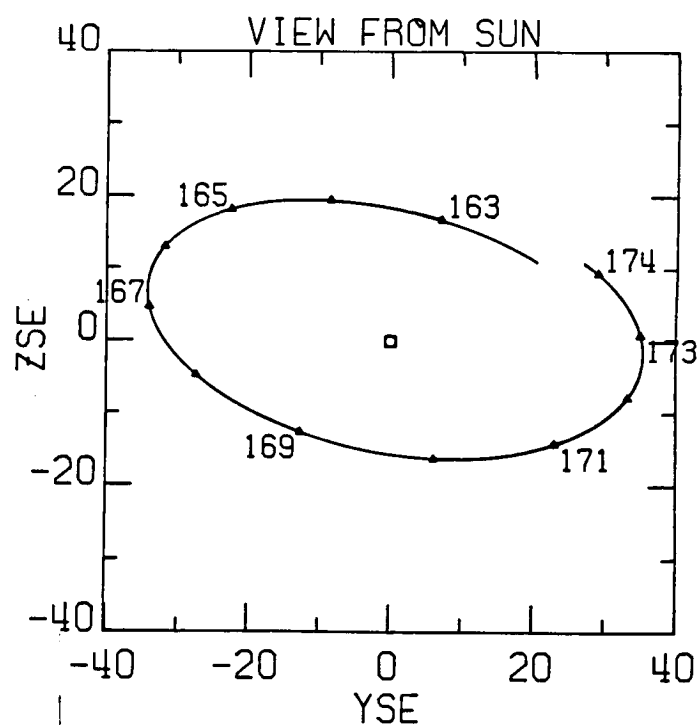
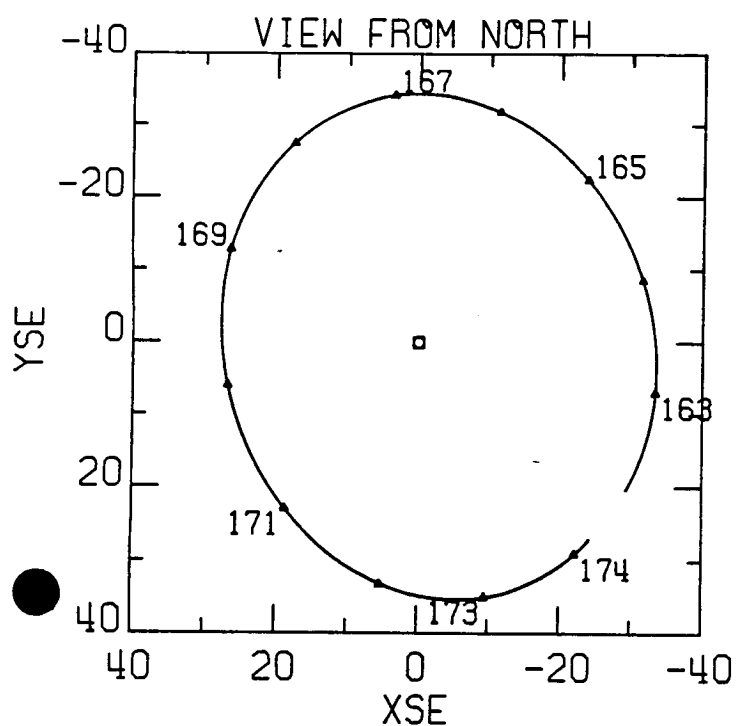
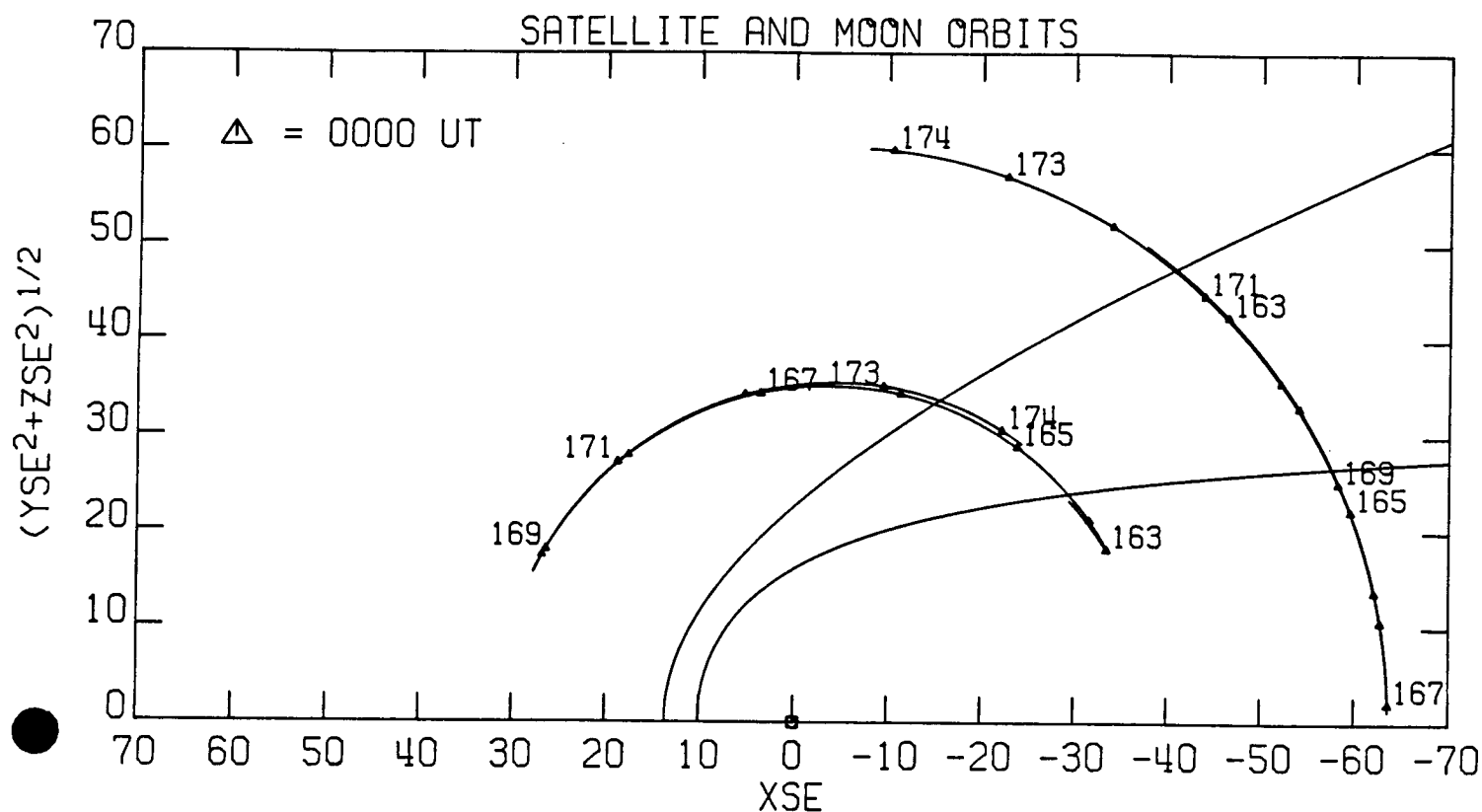
IMP 7 FROM JUN 11 TO JUN 23 1973



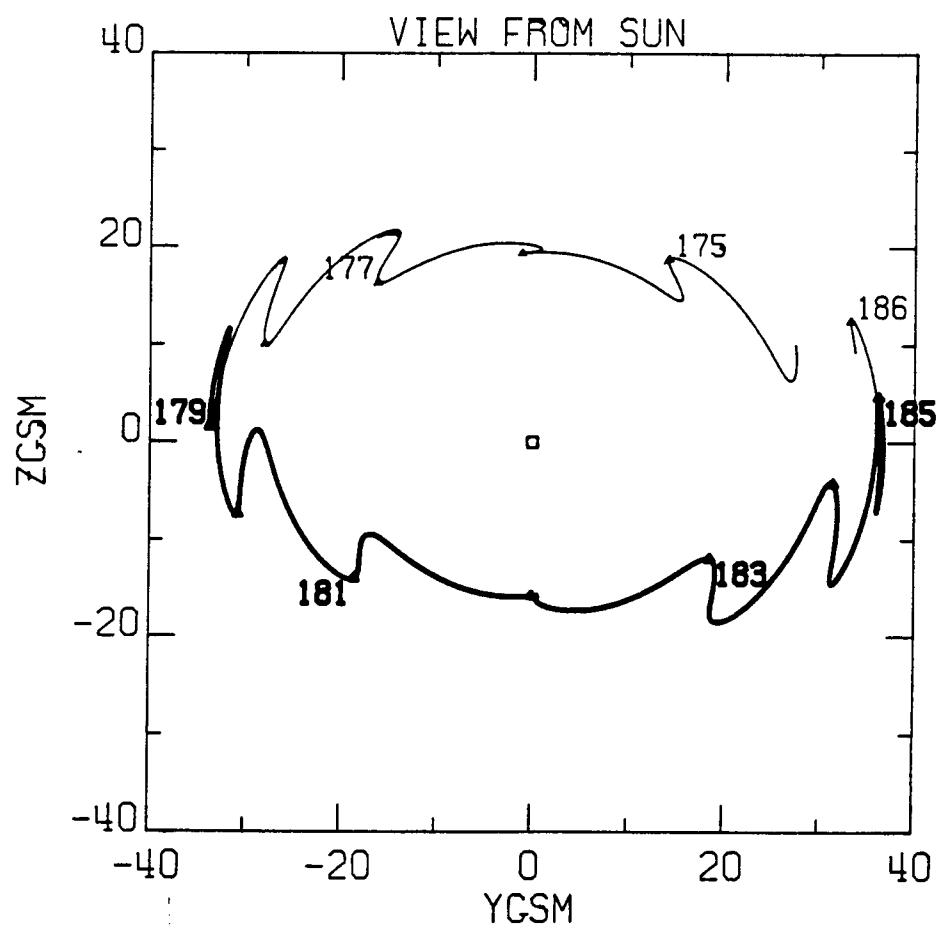
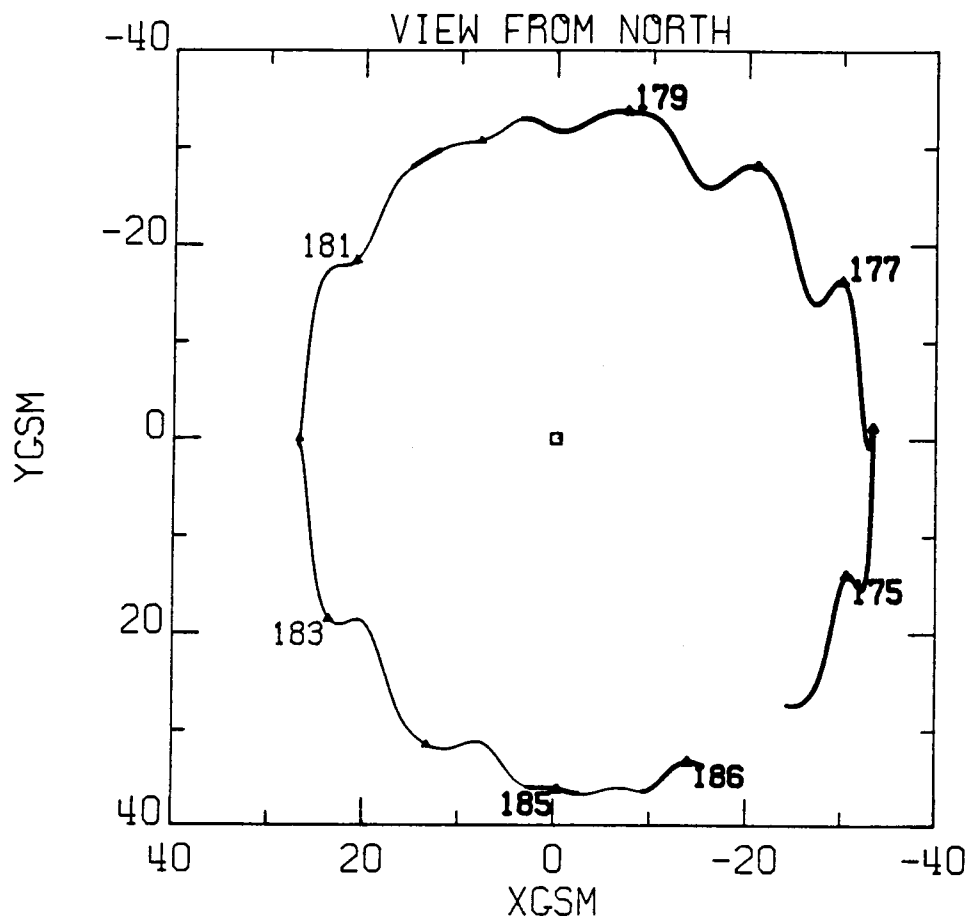
IMP 7 TRAJECTORY. ASCENDING NODE 22

FROM JUN 11 TO JUN 23 1973

DAYS 162 THRU 174



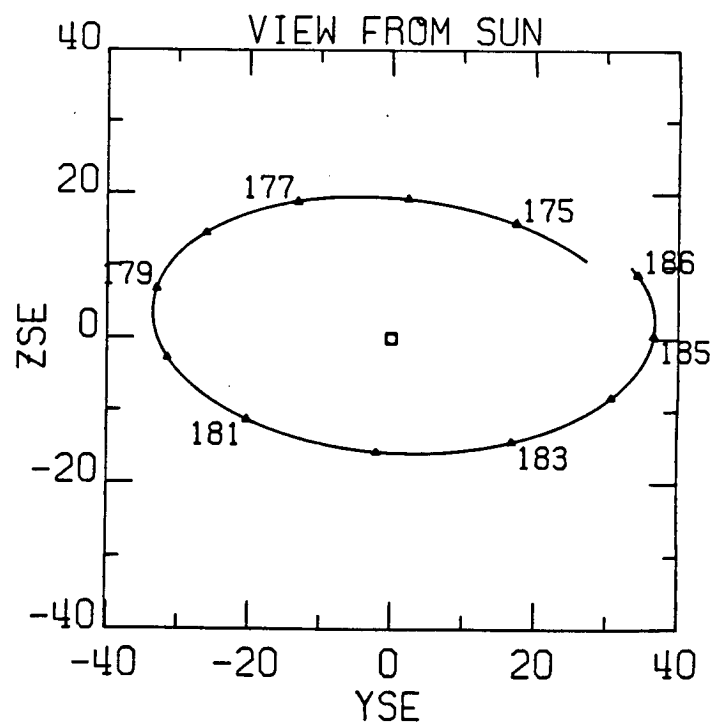
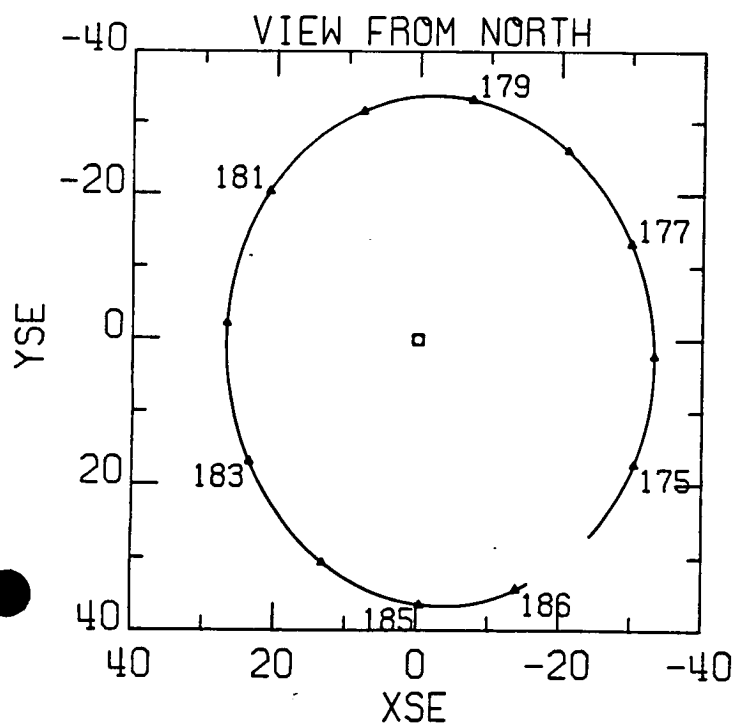
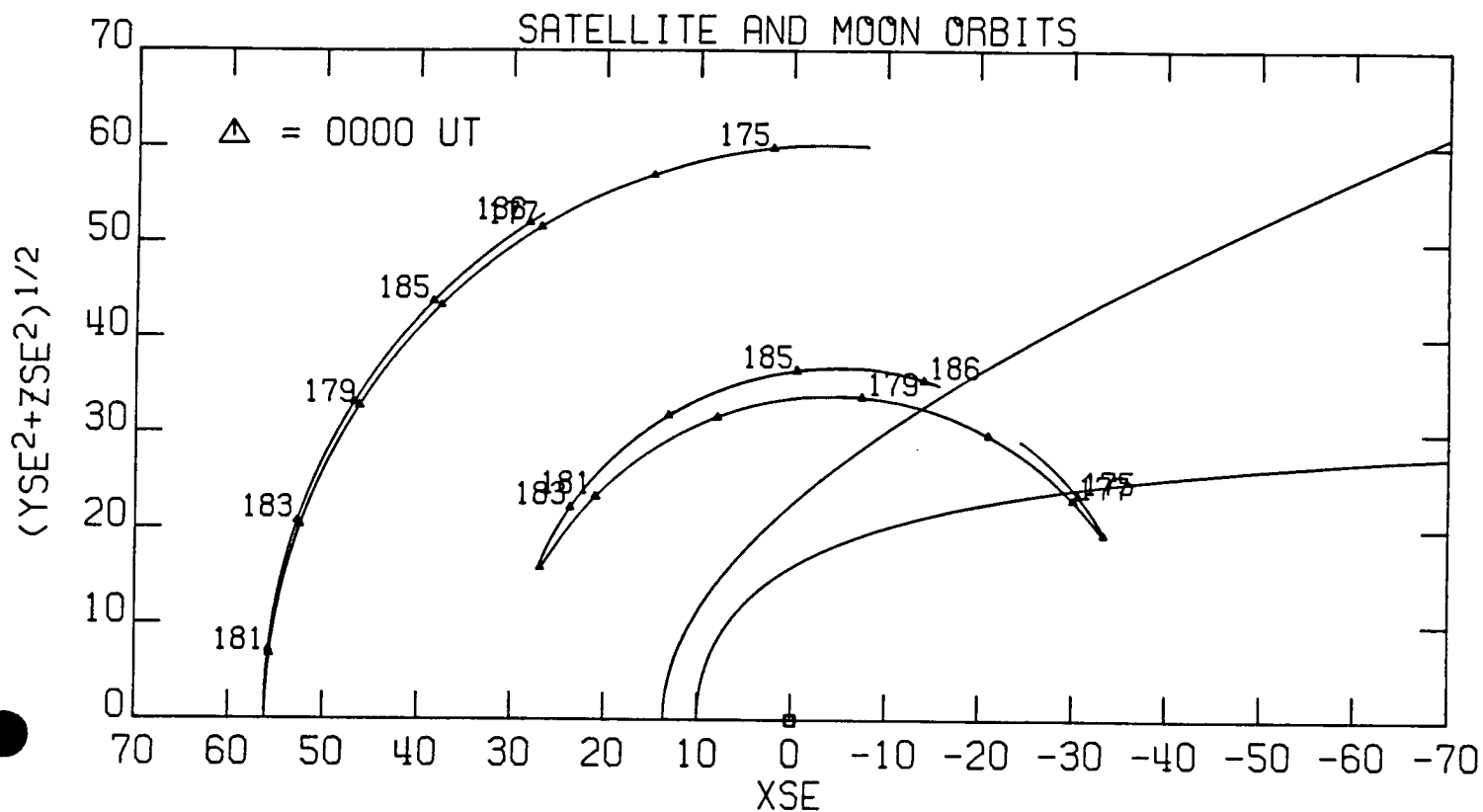
IMP 7 FROM JUN 23 TO JUL 5 1973



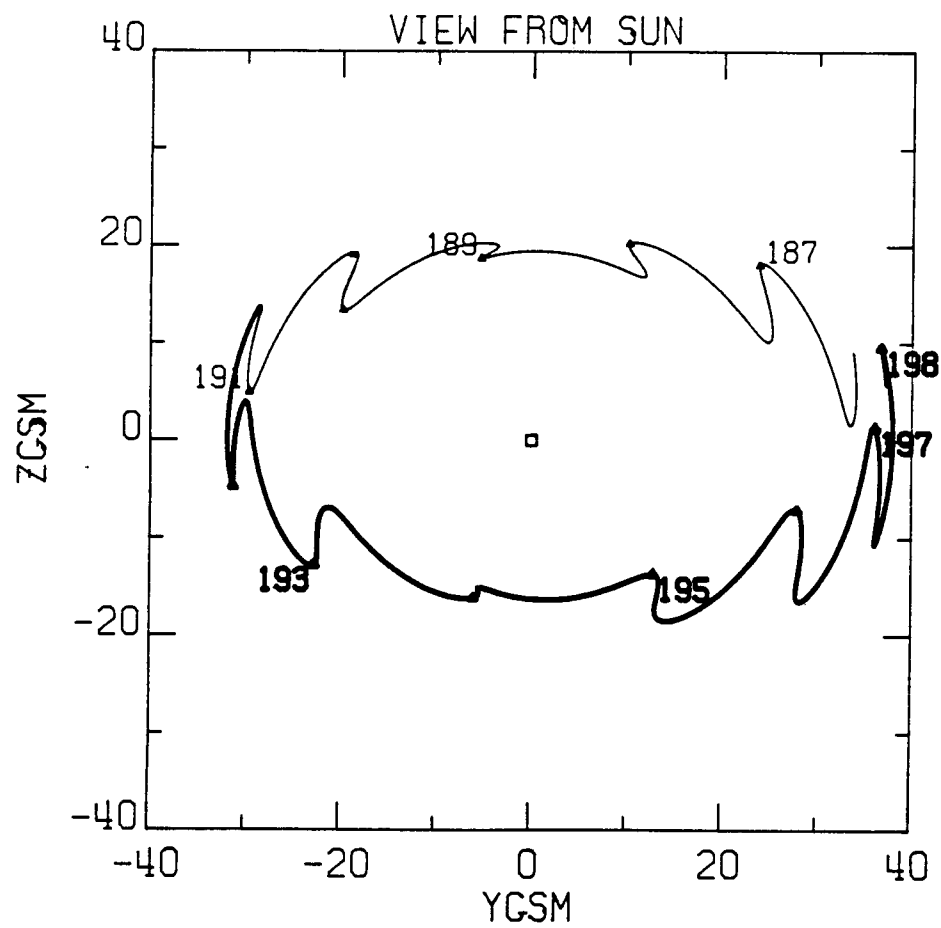
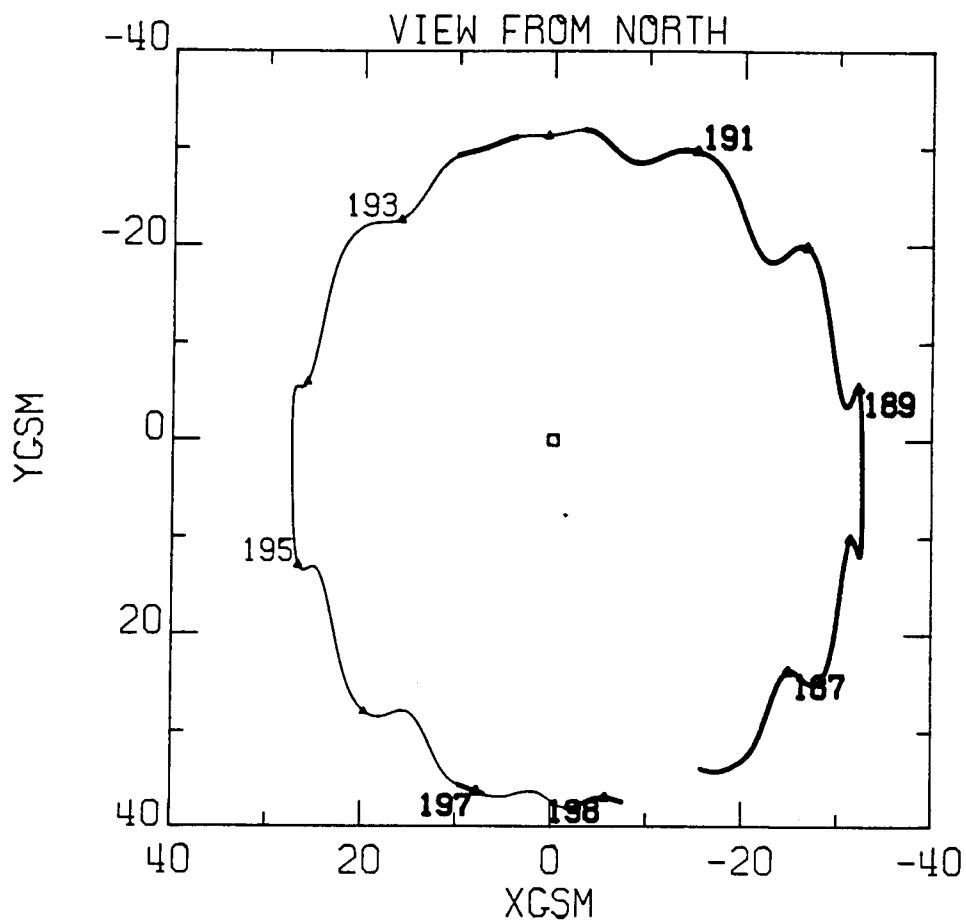
IMP 7 TRAJECTORY. ASCENDING NODE 23

FROM JUN 23 TO JUL 5 1973

DAYS 174 THRU 186



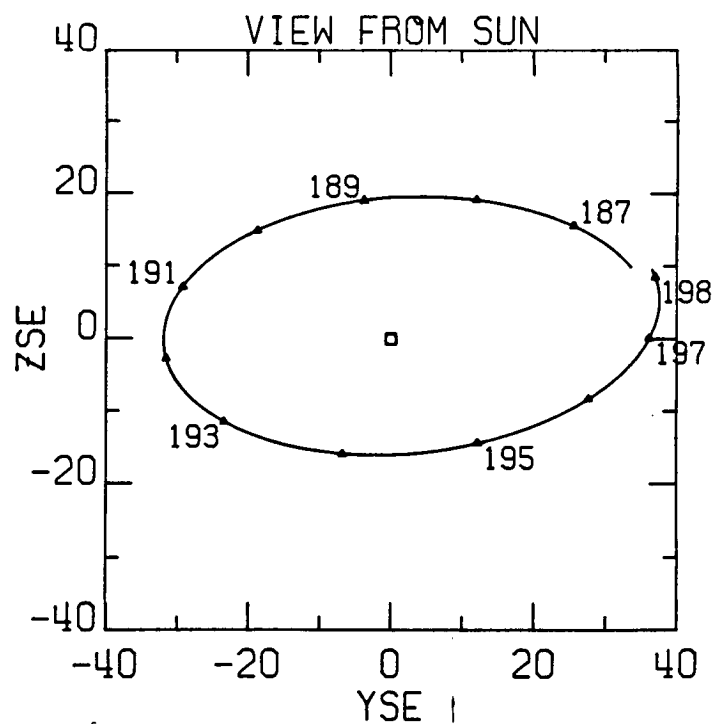
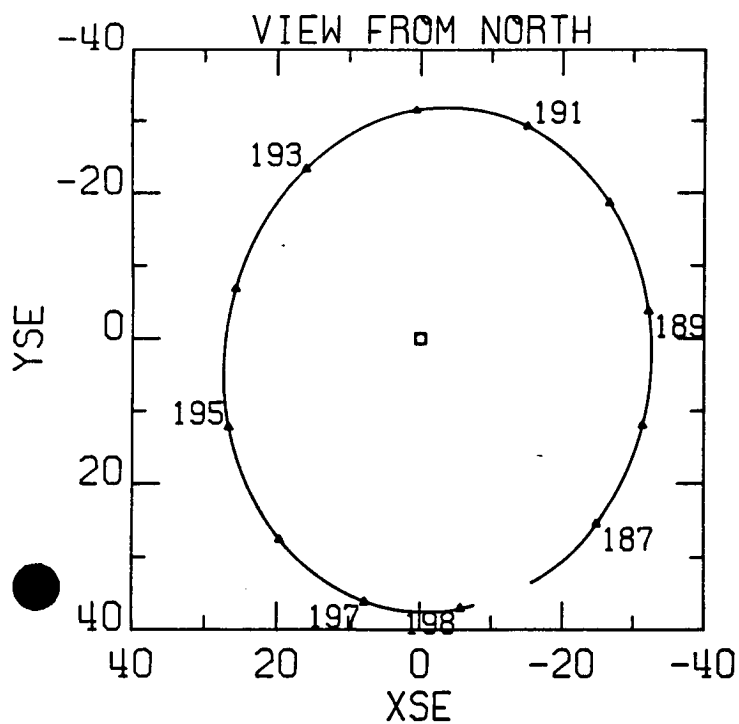
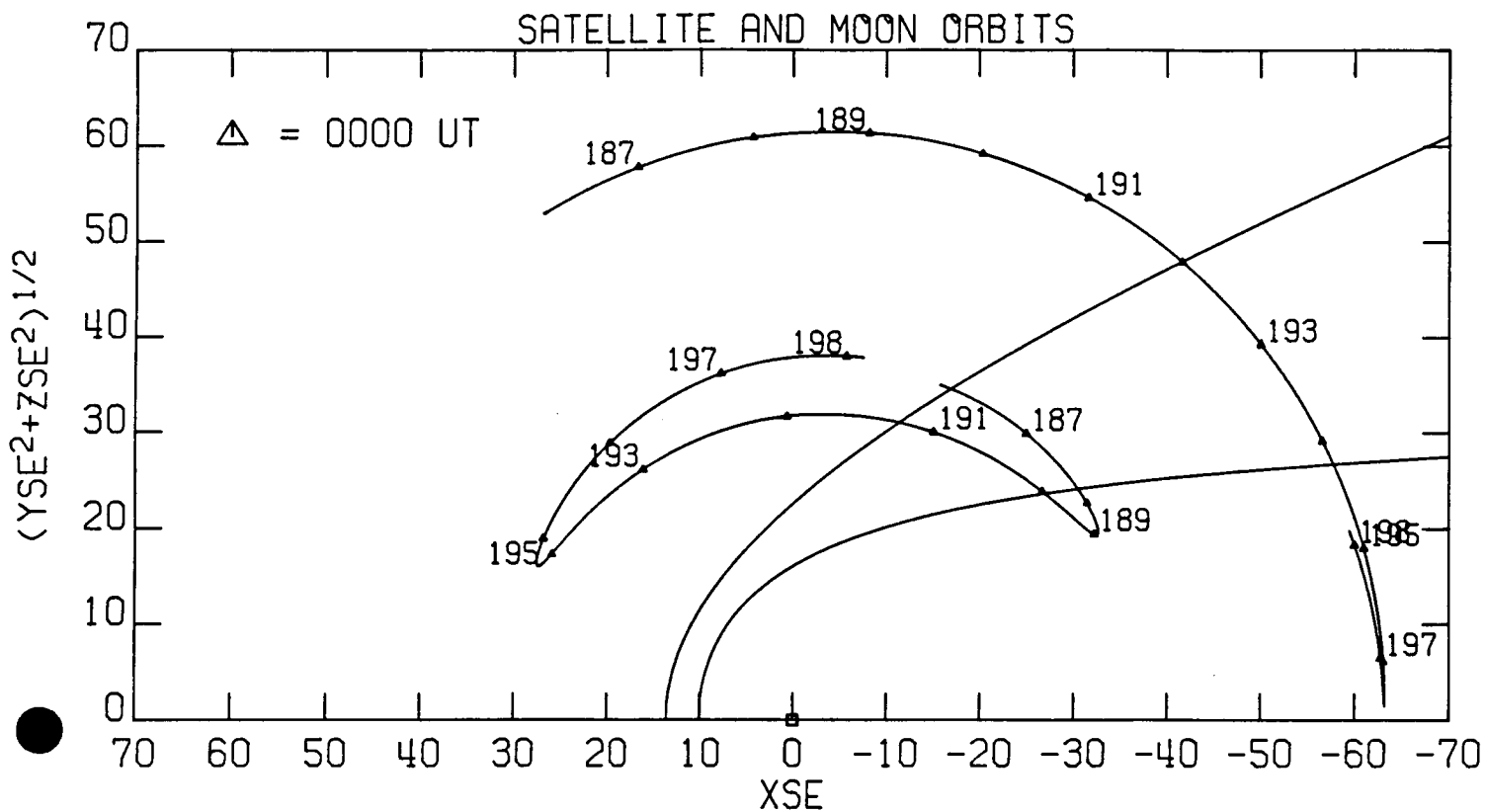
IMP 7 FROM JUL 5 TO JUL 17 1973



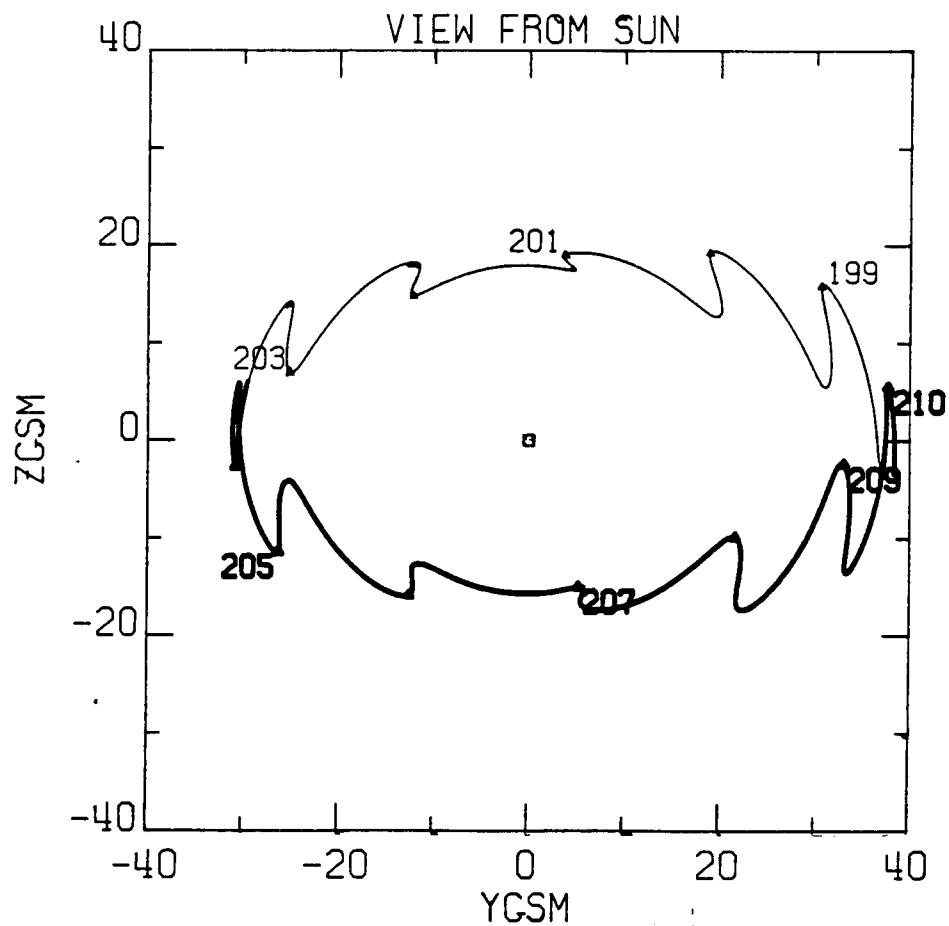
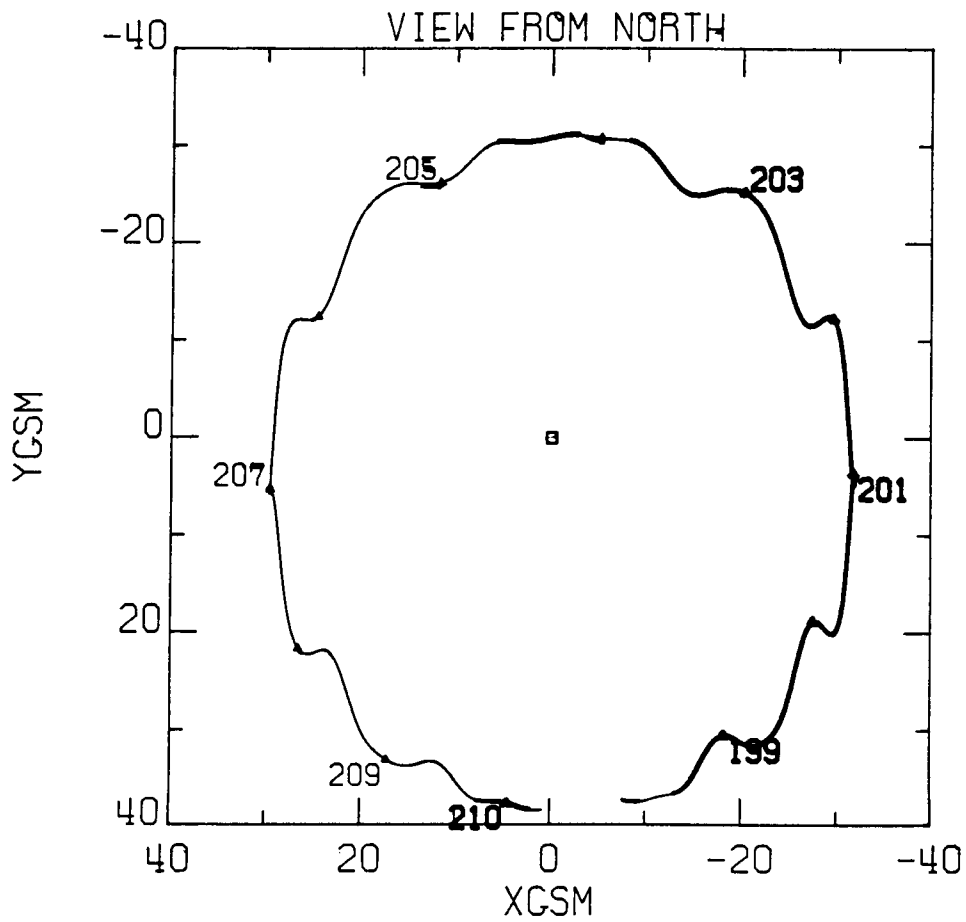
IMP 7 TRAJECTORY. ASCENDING NODE 24

FROM JUL 5 TO JUL 17 1973

DAYS 186 THRU 198



IMP 7 FROM JUL 17 TO JUL 29 1973



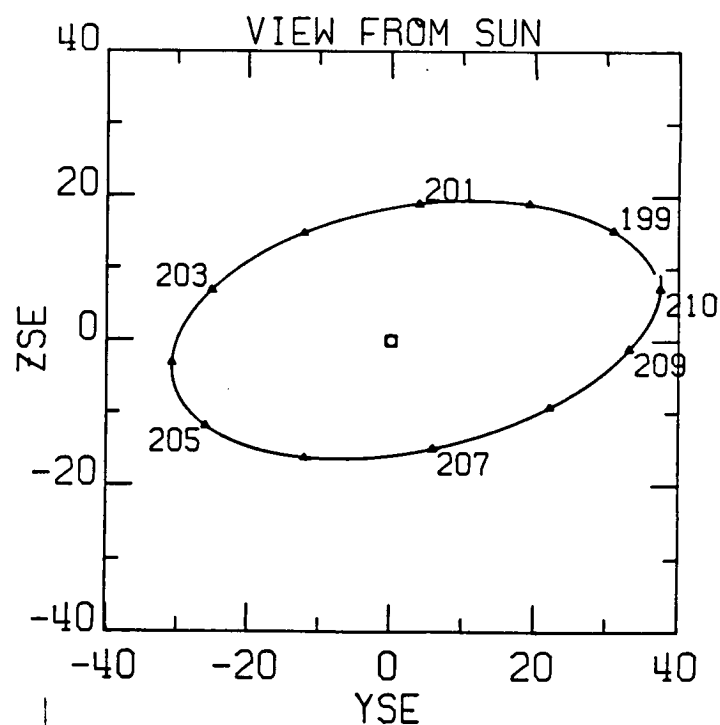
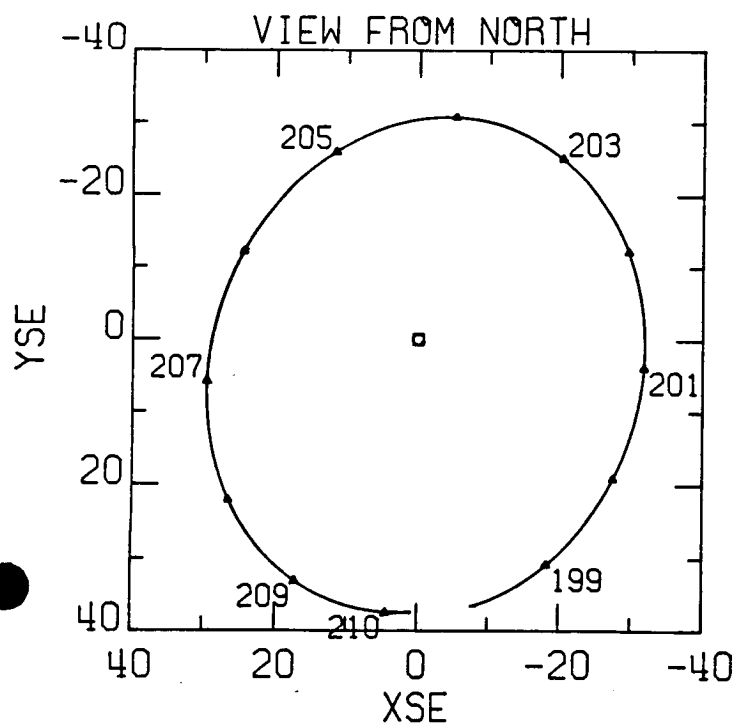
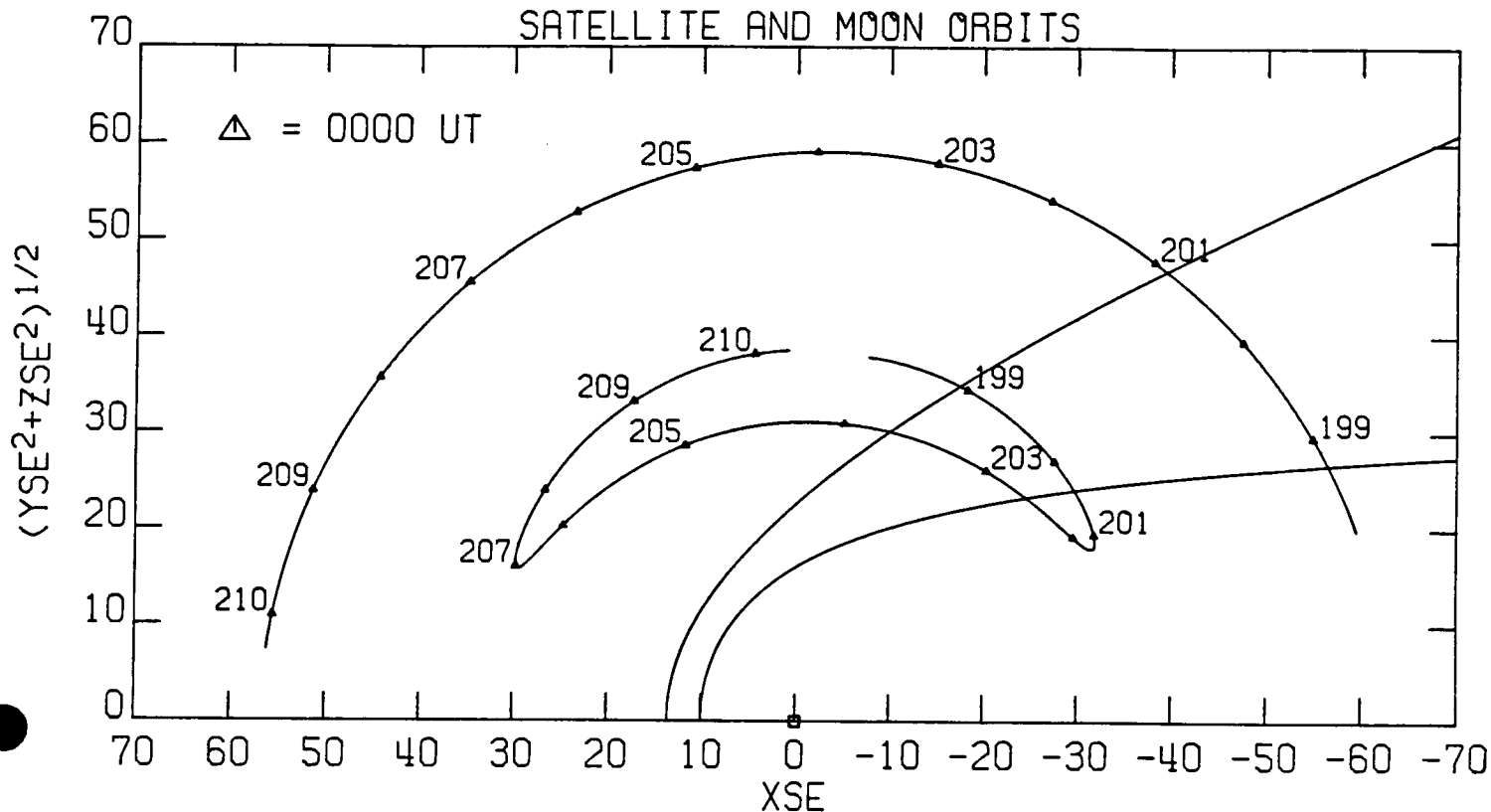
IMP 7 TRAJECTORY.

ASCENDING NODE 25

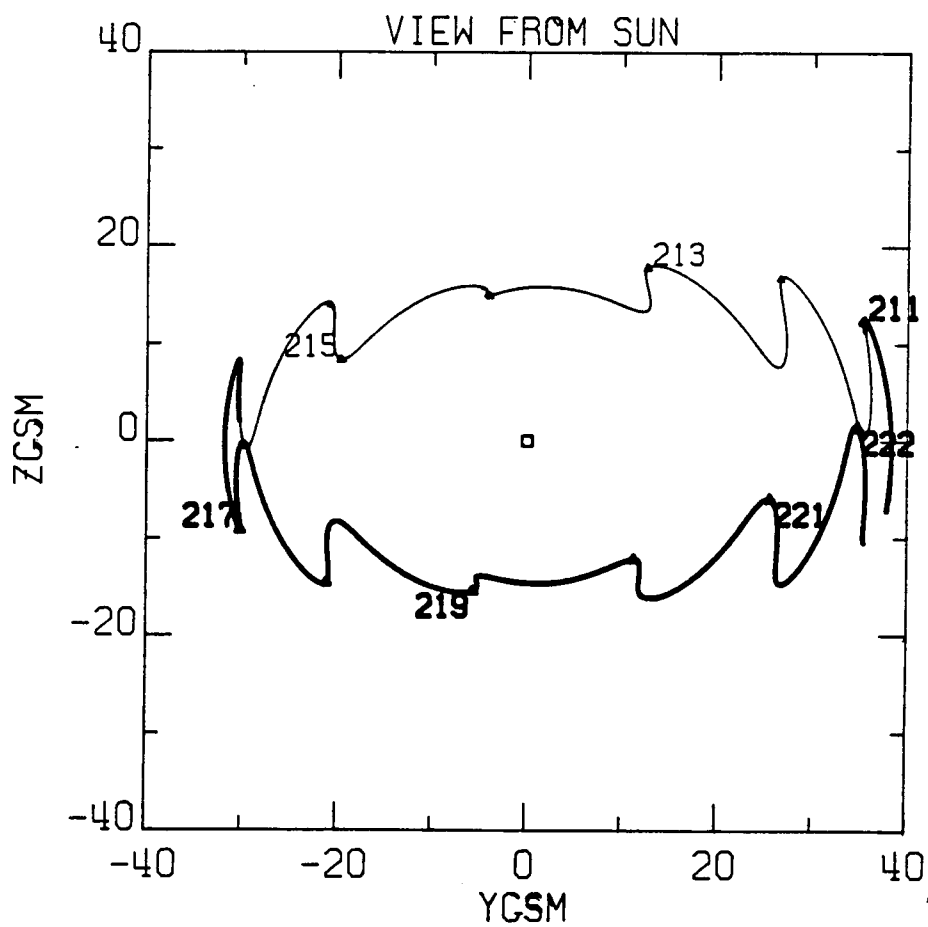
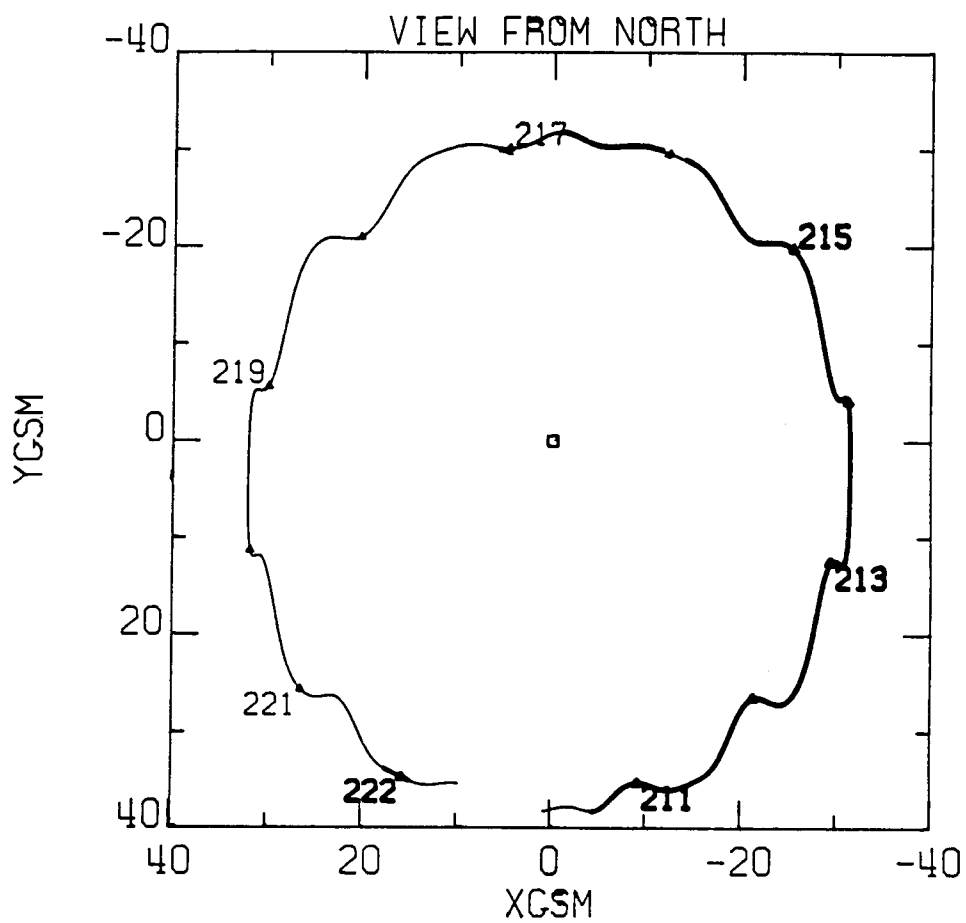
FROM JUL 17 TO JUL 29 1973

DAYS 198 THRU 210

SATELLITE AND MOON ORBITS



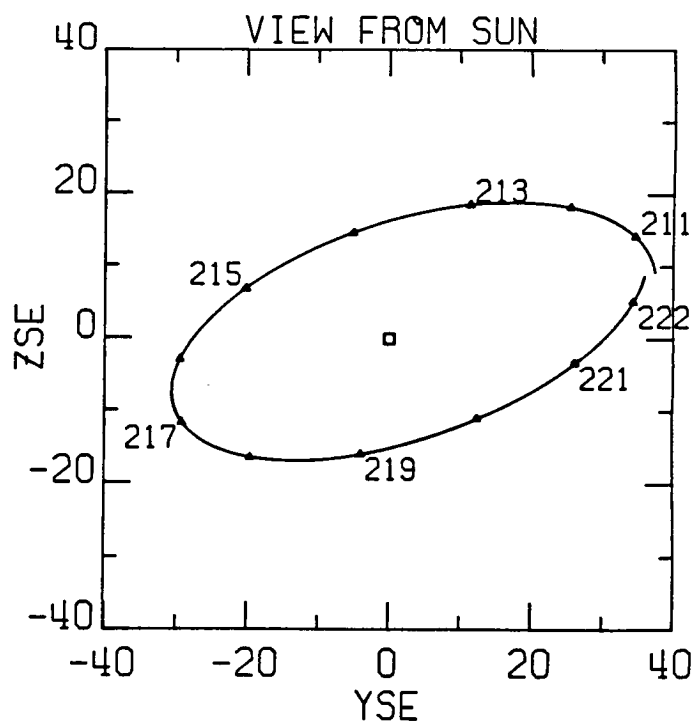
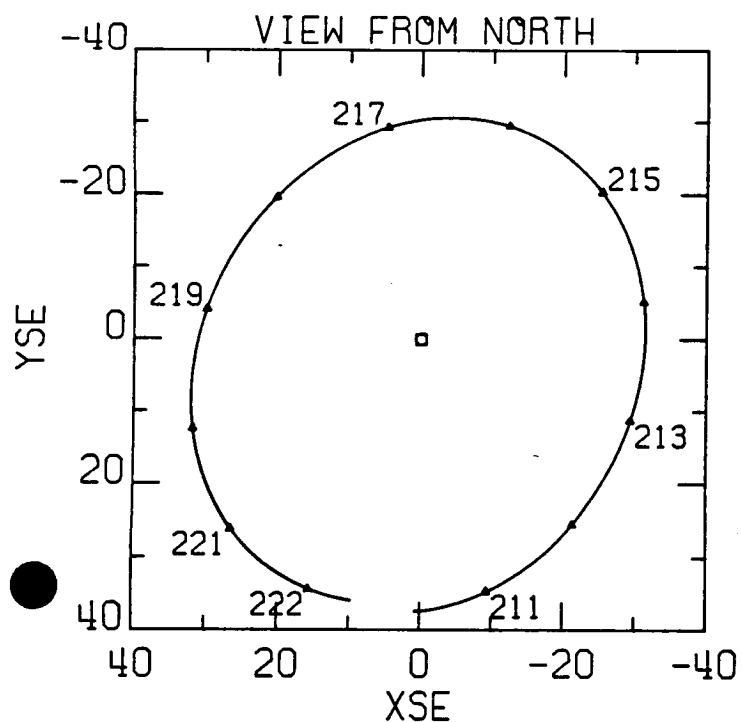
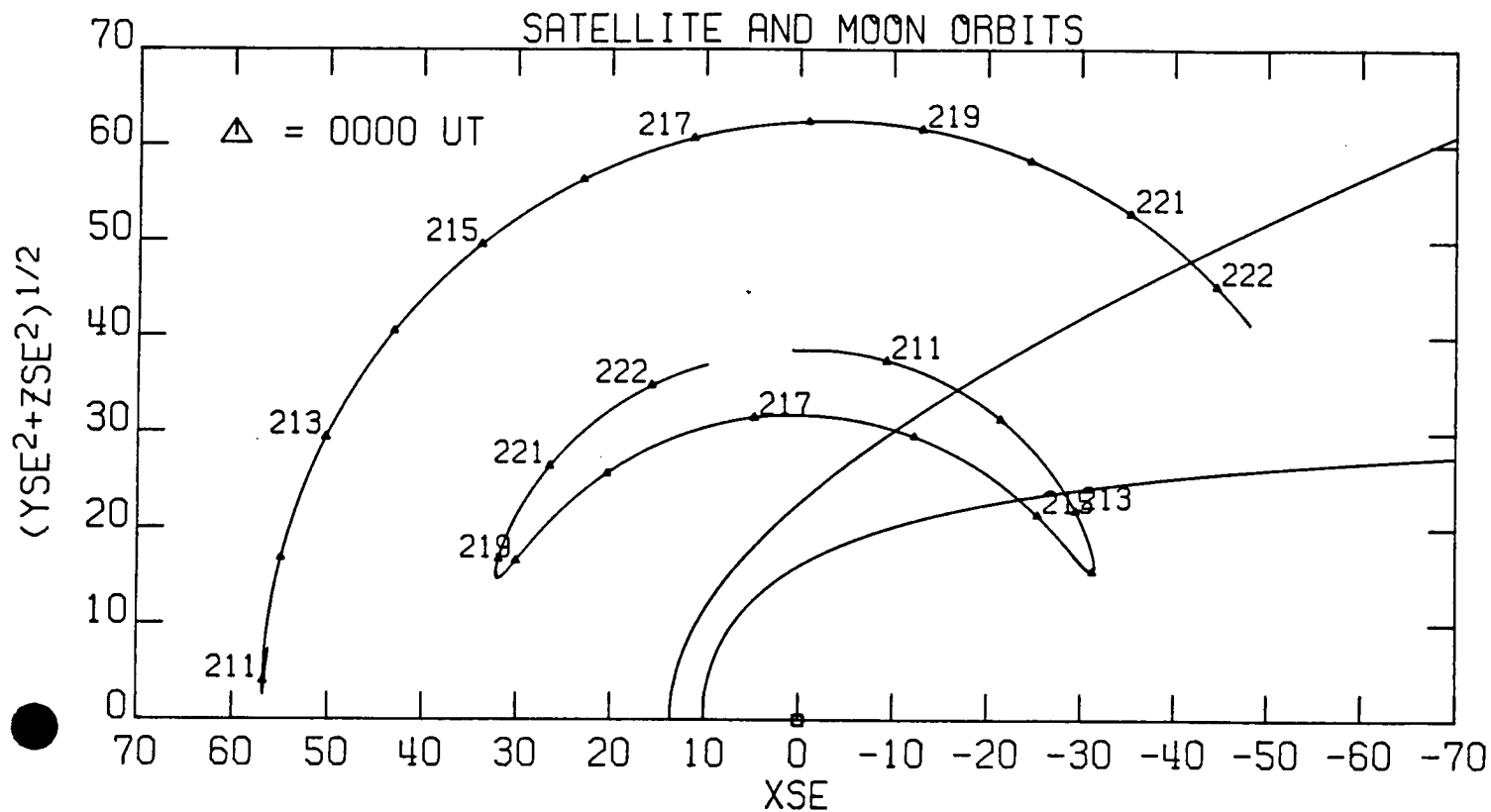
IMP 7 FROM JUL 29 TO AUG 10 1973



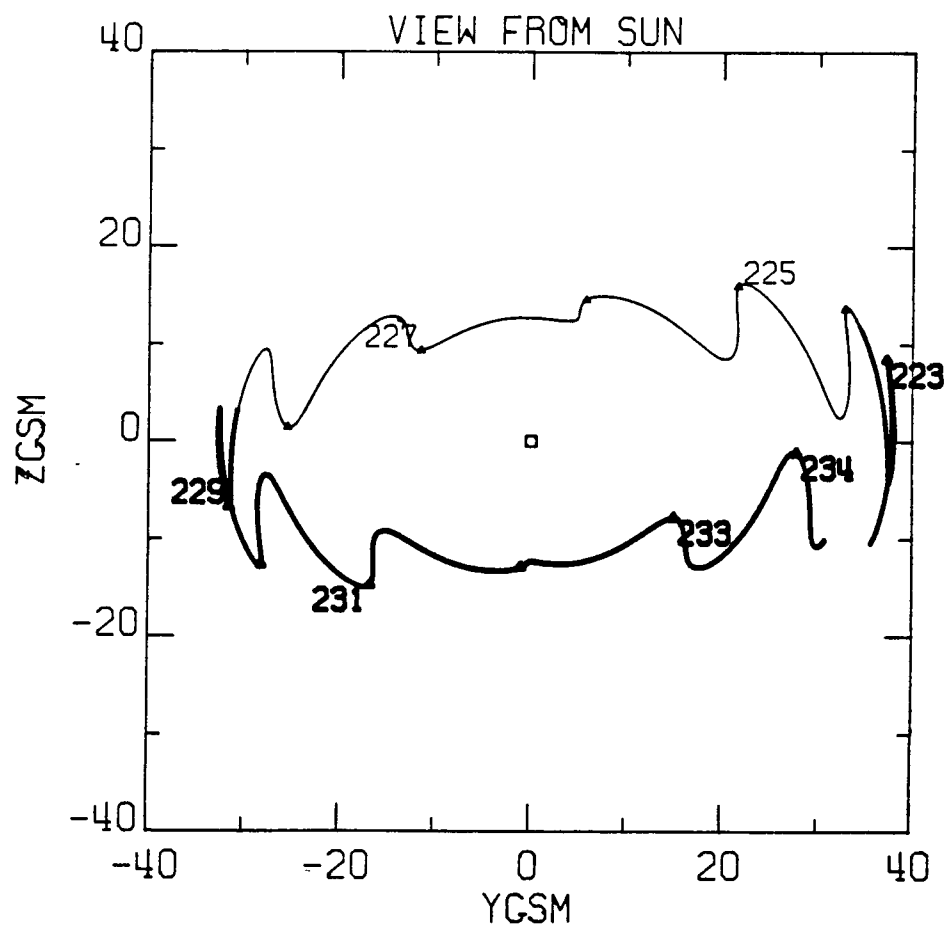
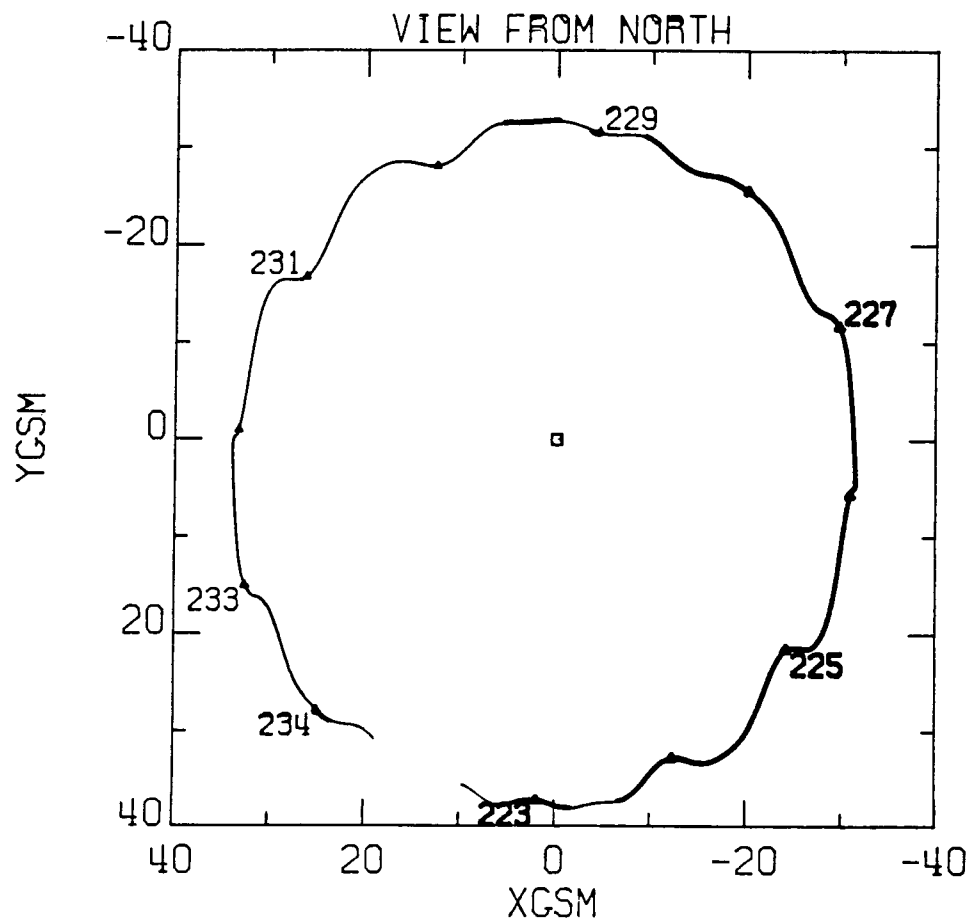
IMP 7 TRAJECTORY. ASCENDING NODE 26

FROM JUL 29 TO AUG 10 1973

DAYS 210 THRU 222



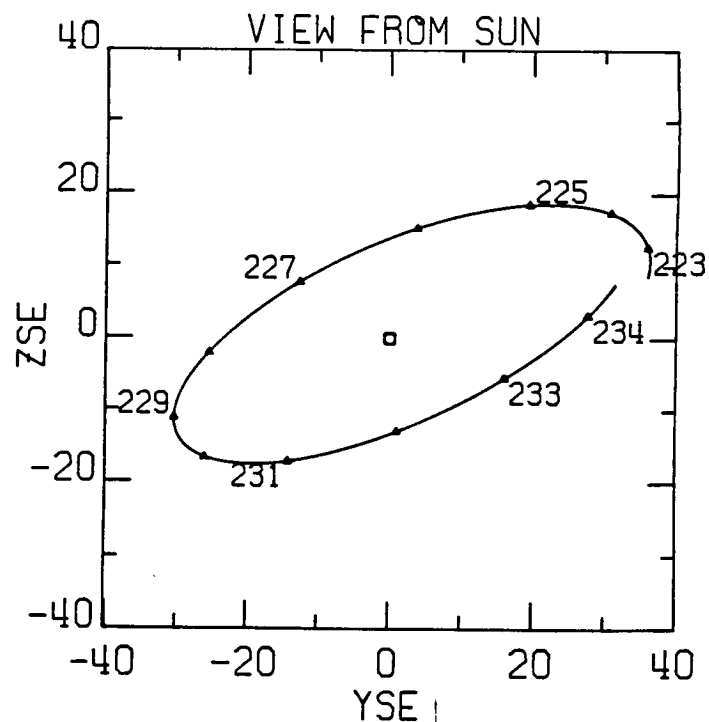
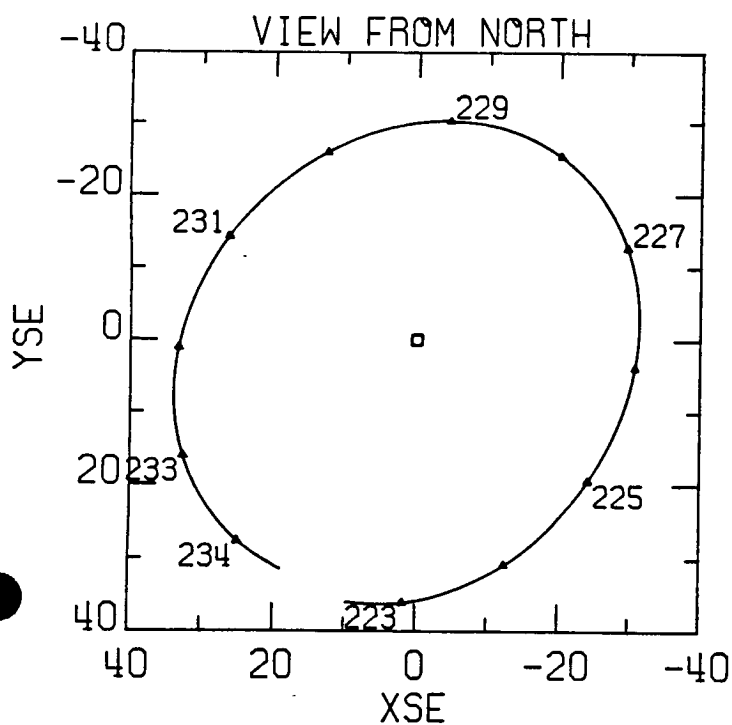
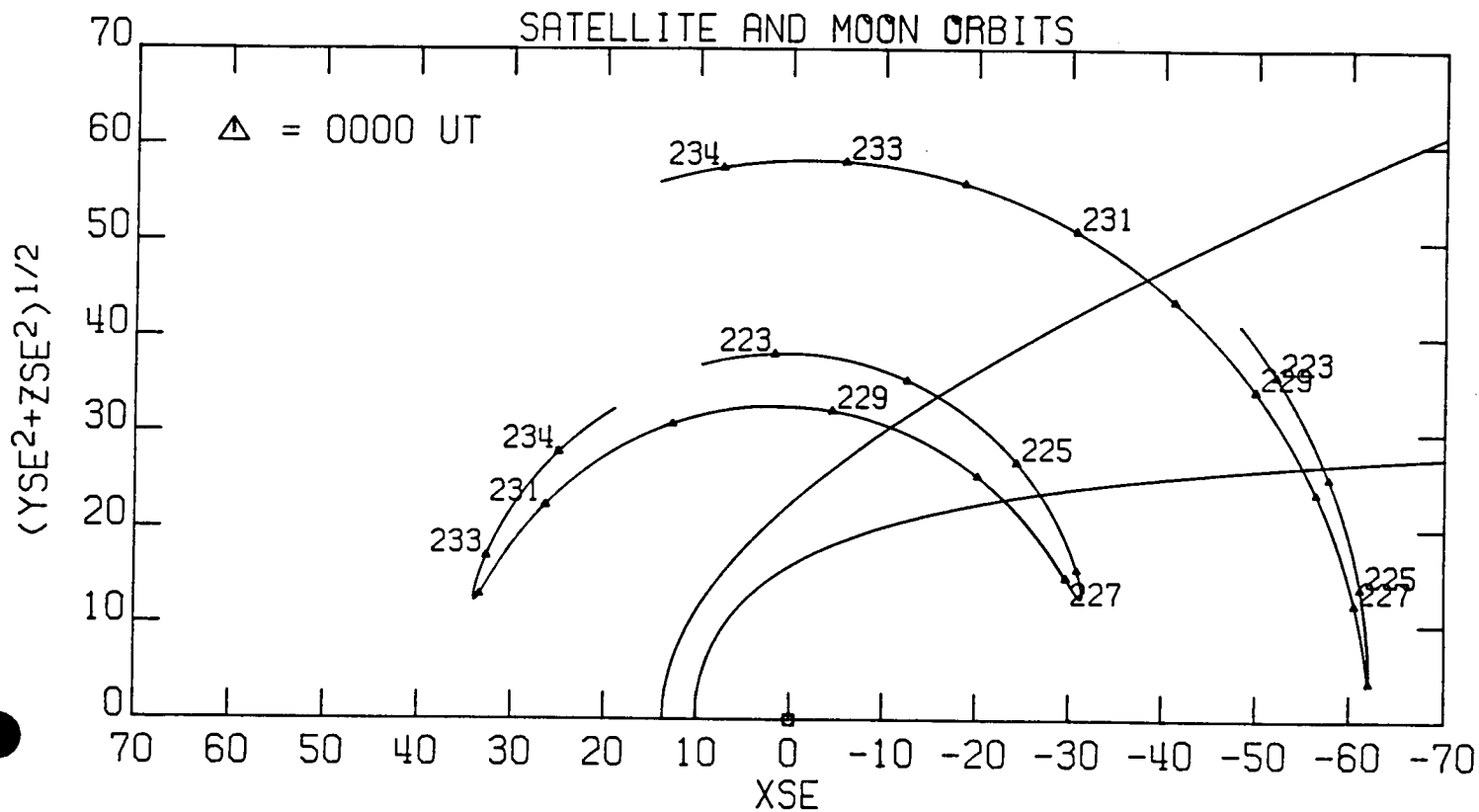
IMP 7 FROM AUG 10 TO AUG 22 1973



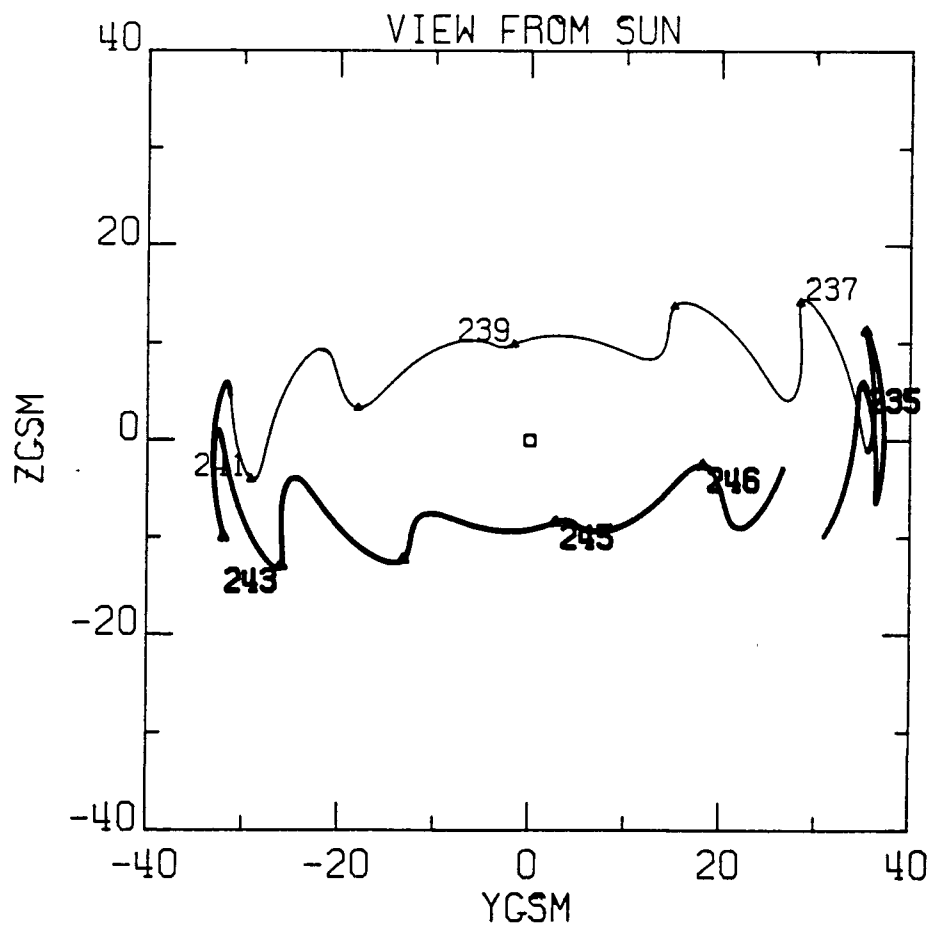
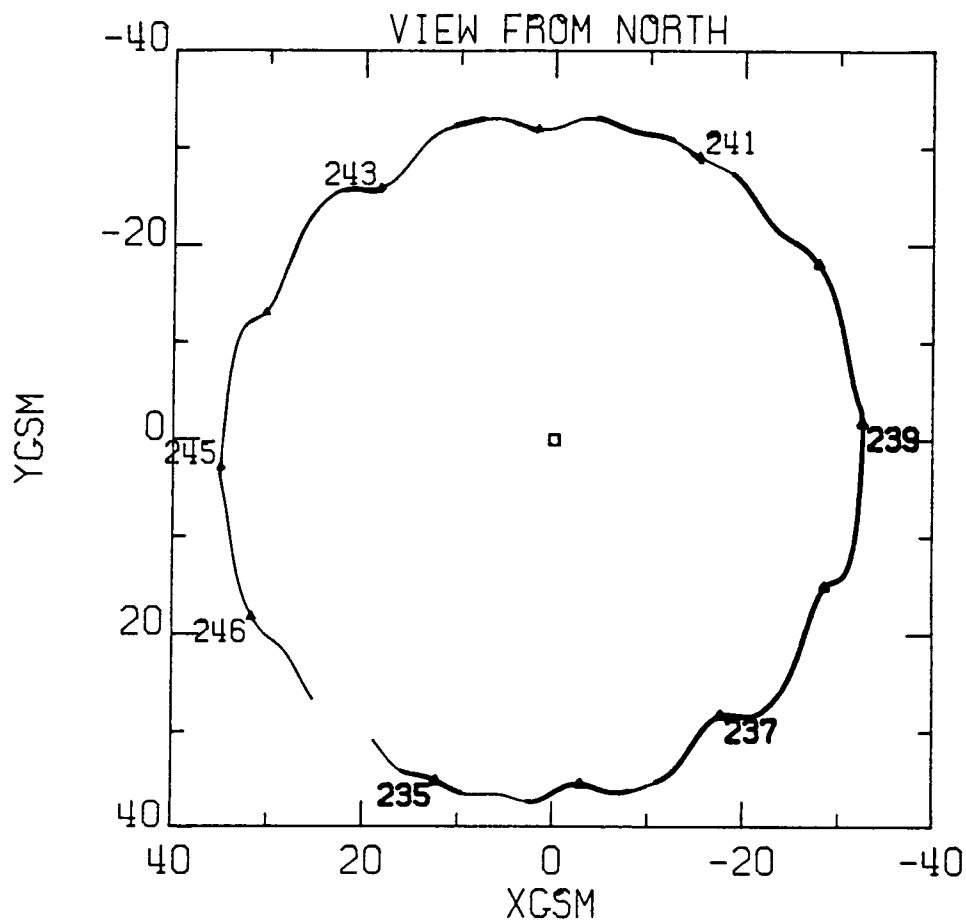
IMP 7 TRAJECTORY. ASCENDING NODE 27

FROM AUG 10 TO AUG 22 1973

DAYS 222 THRU 234



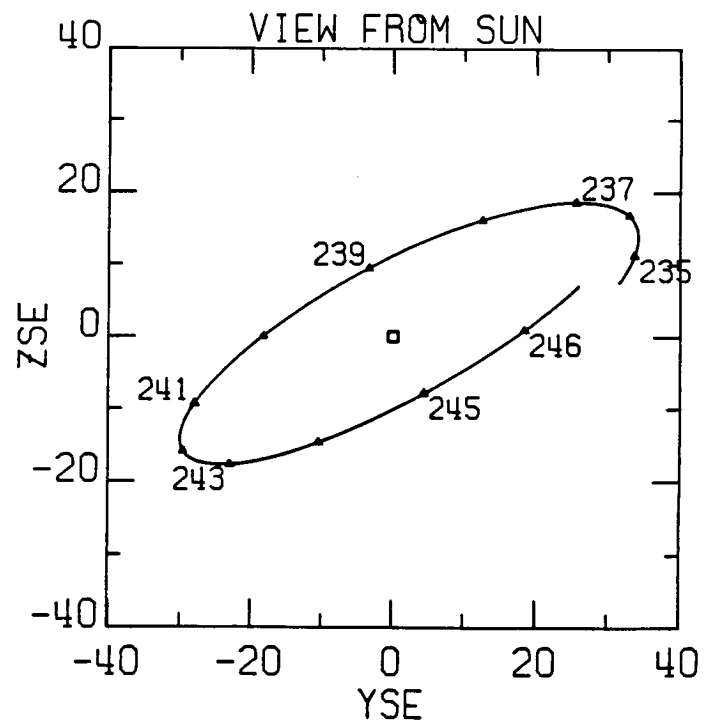
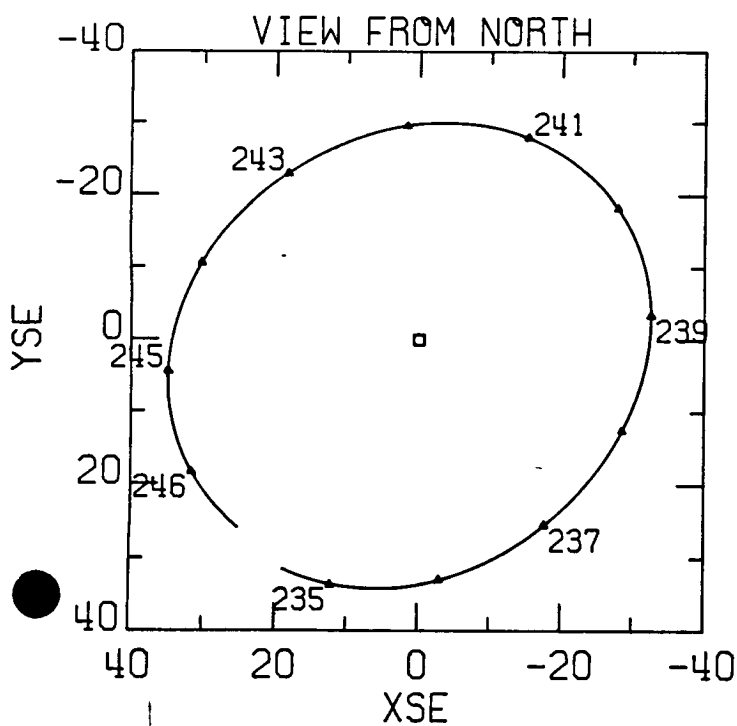
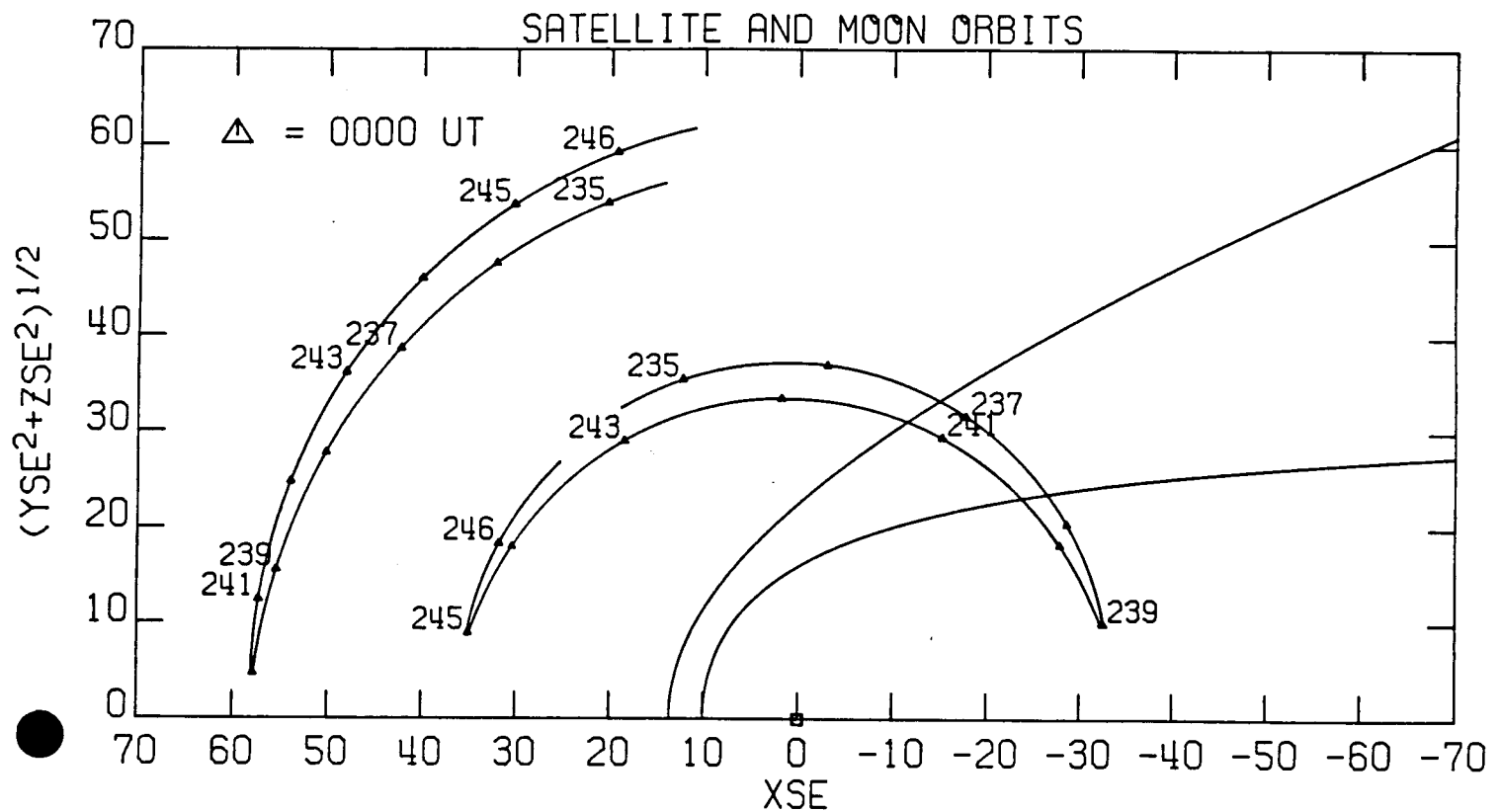
IMP 7 FROM AUG 22 TO SEP 3 1973



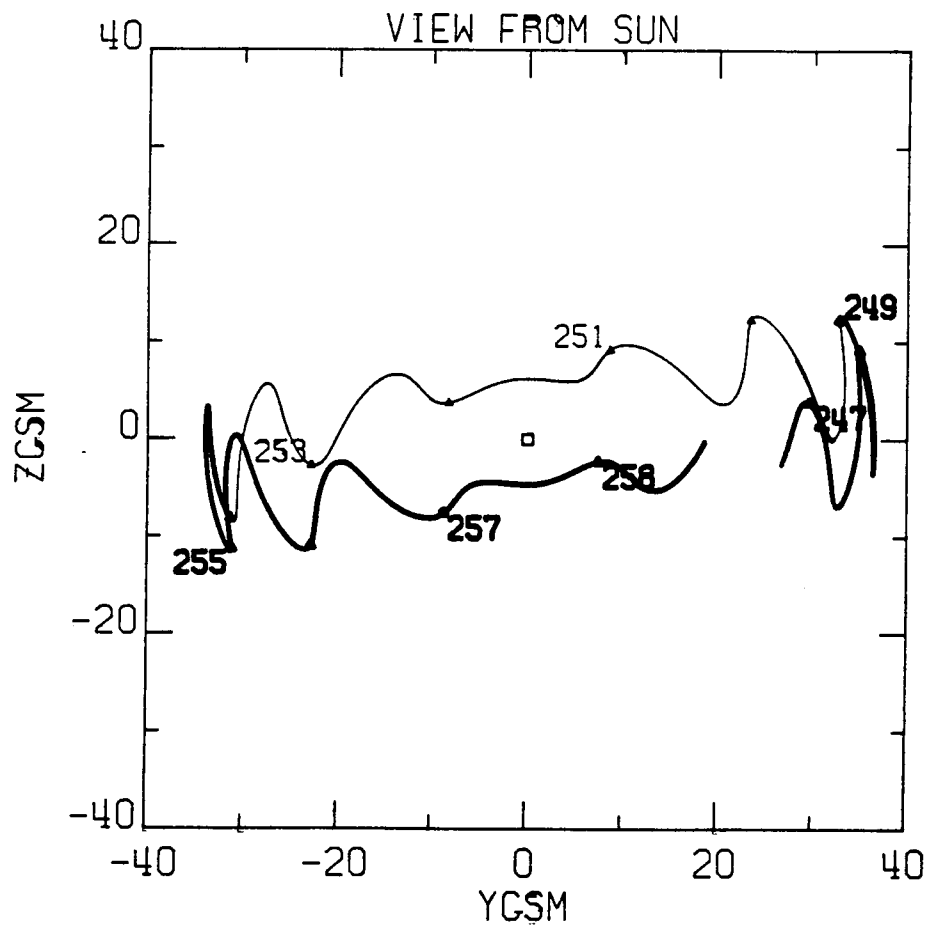
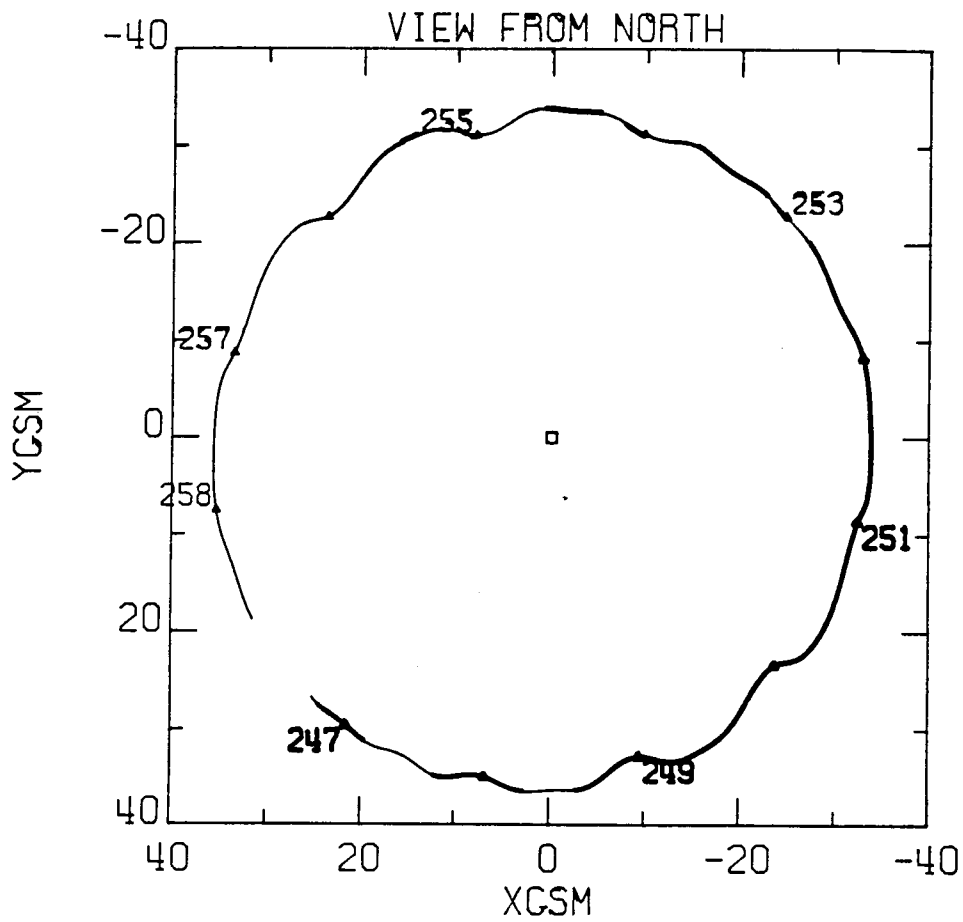
IMP 7 TRAJECTORY. ASCENDING NODE 28

FROM AUG 22 TO SEP 3 1973

DAYS 234 THRU 246



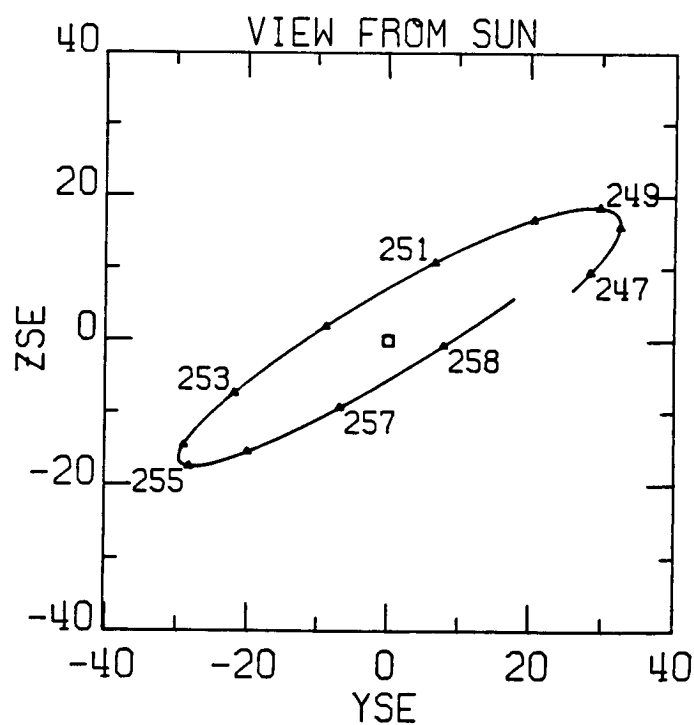
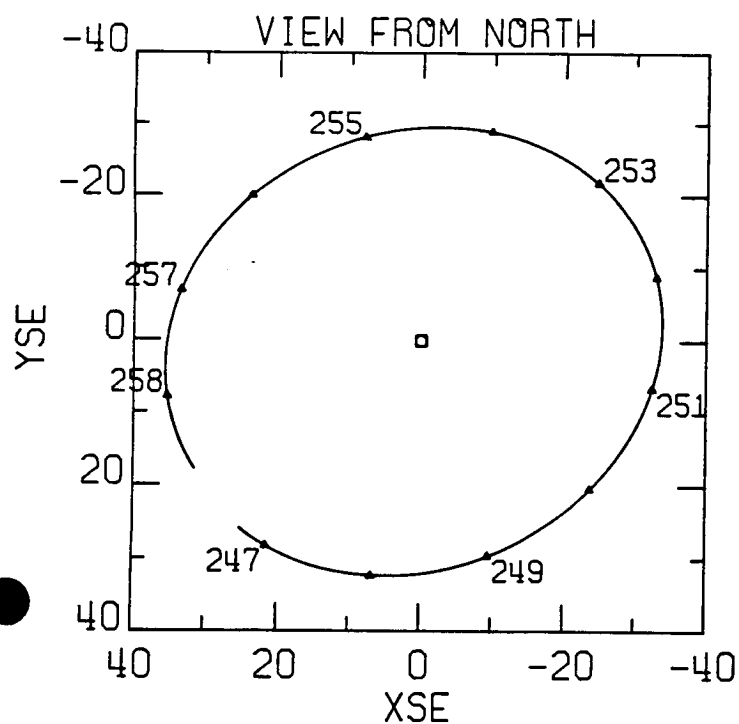
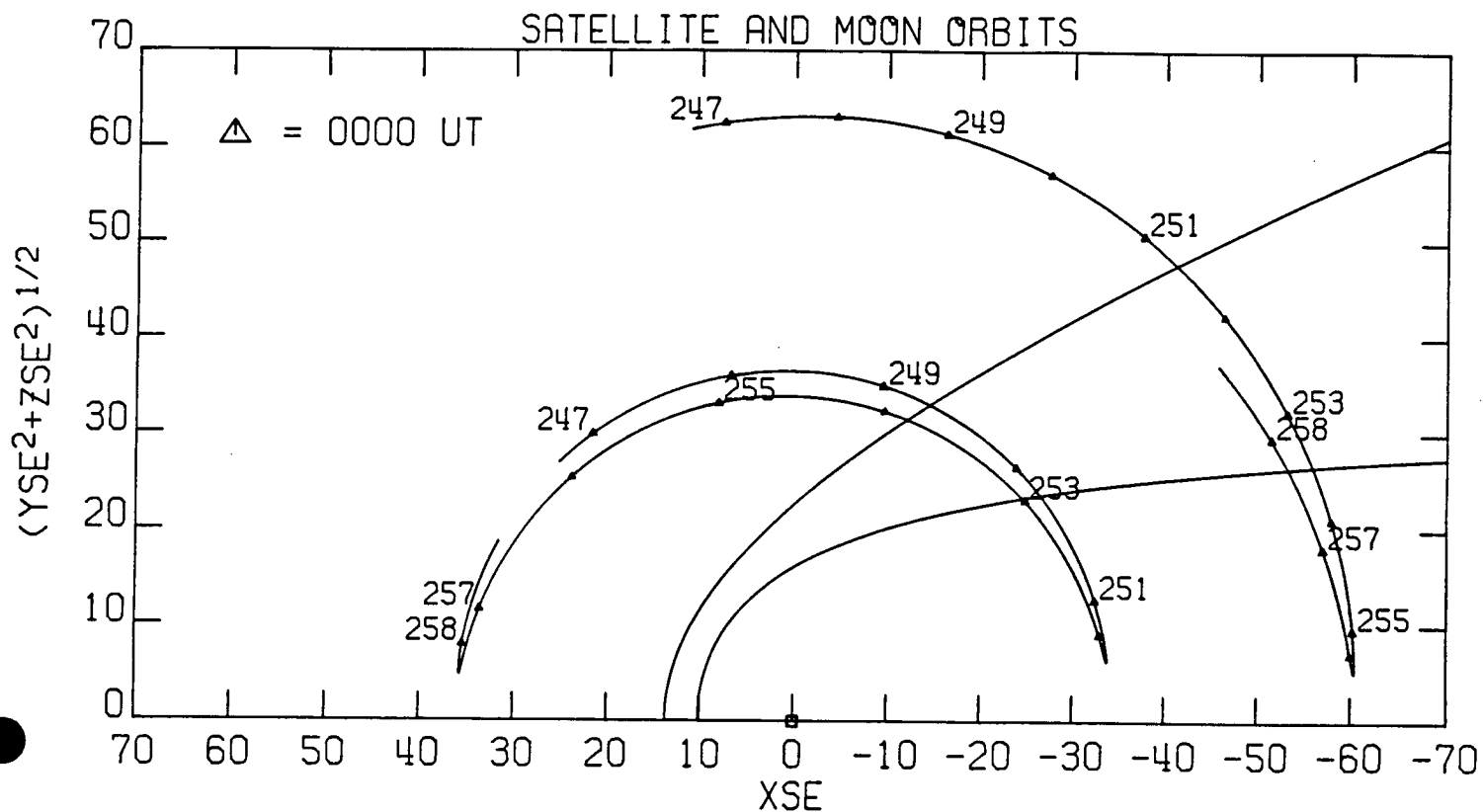
IMP 7 FROM SEP 3 TO SEP 15 1973



IMP 7 TRAJECTORY. ASCENDING NODE 29

FROM SEP 3 TO SEP 15 1973

DAYS 246 THRU 258



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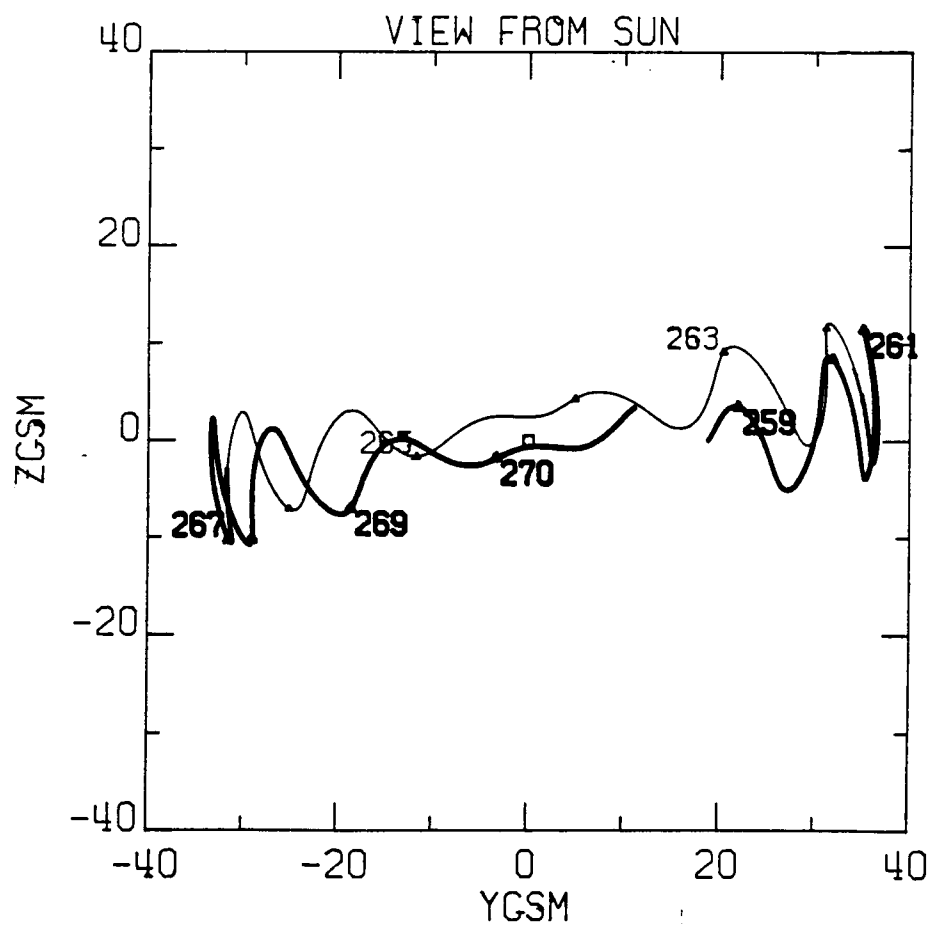
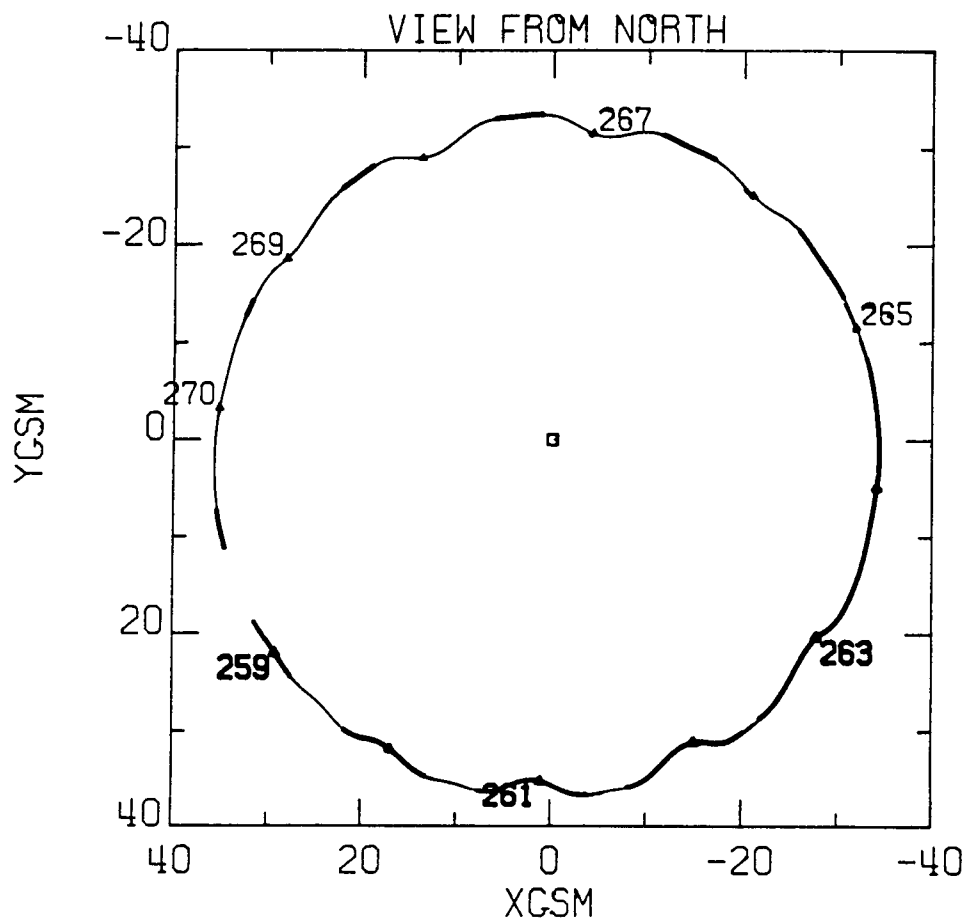
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IMP 7 FROM SEP 15 TO SEP 27 1973

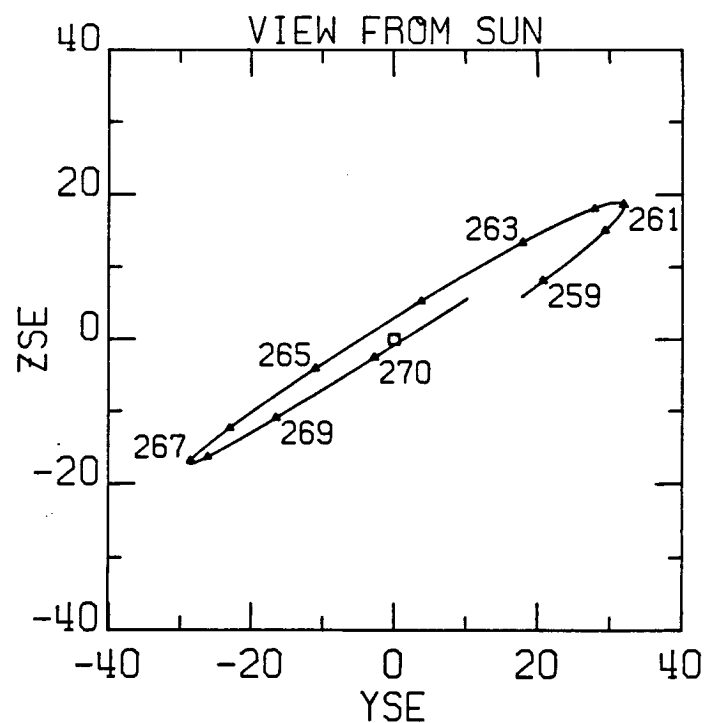
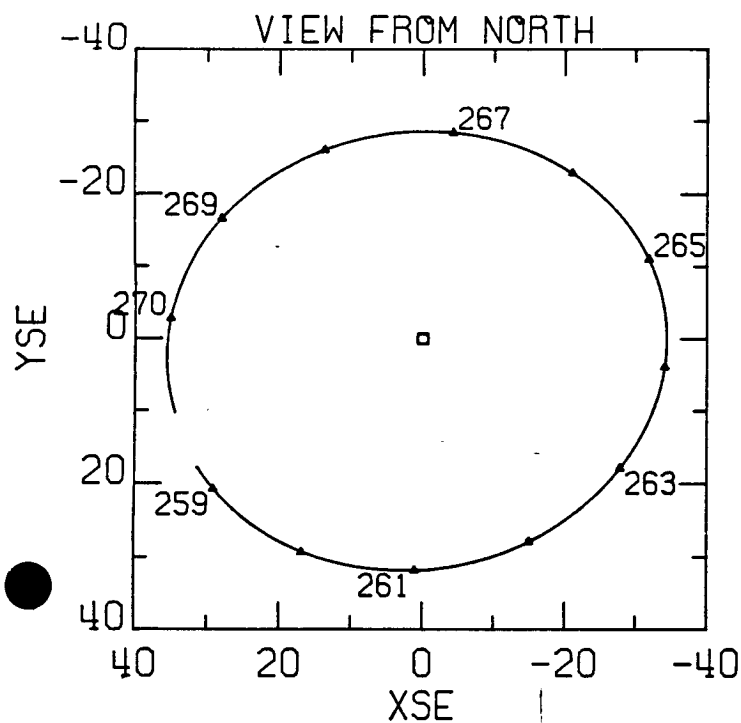
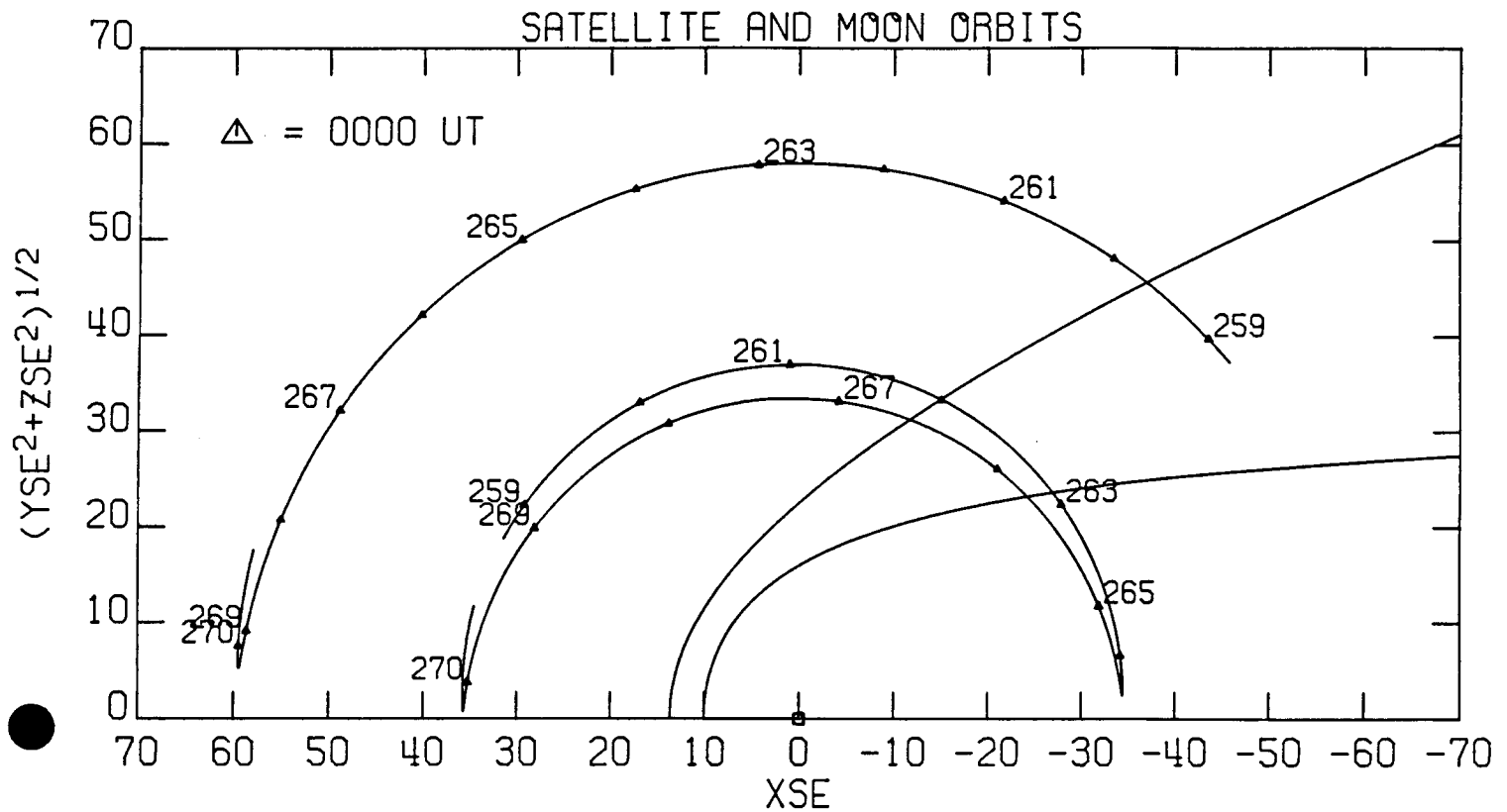


IMP 7 TRAJECTORY.

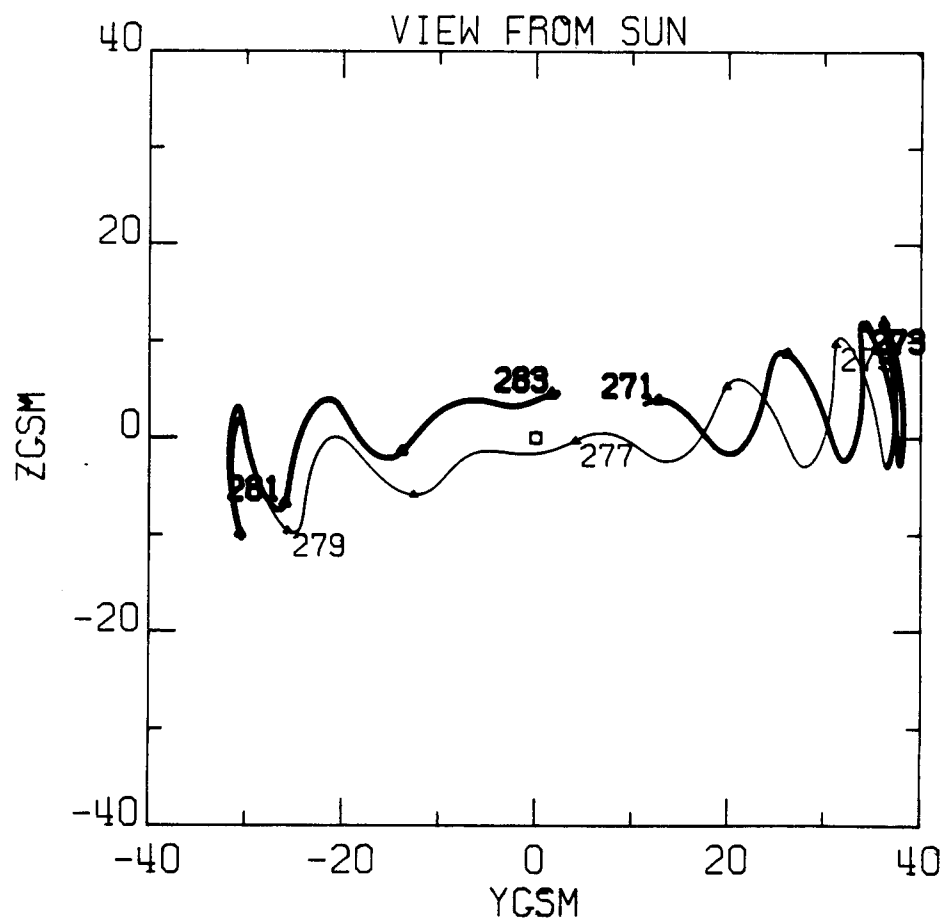
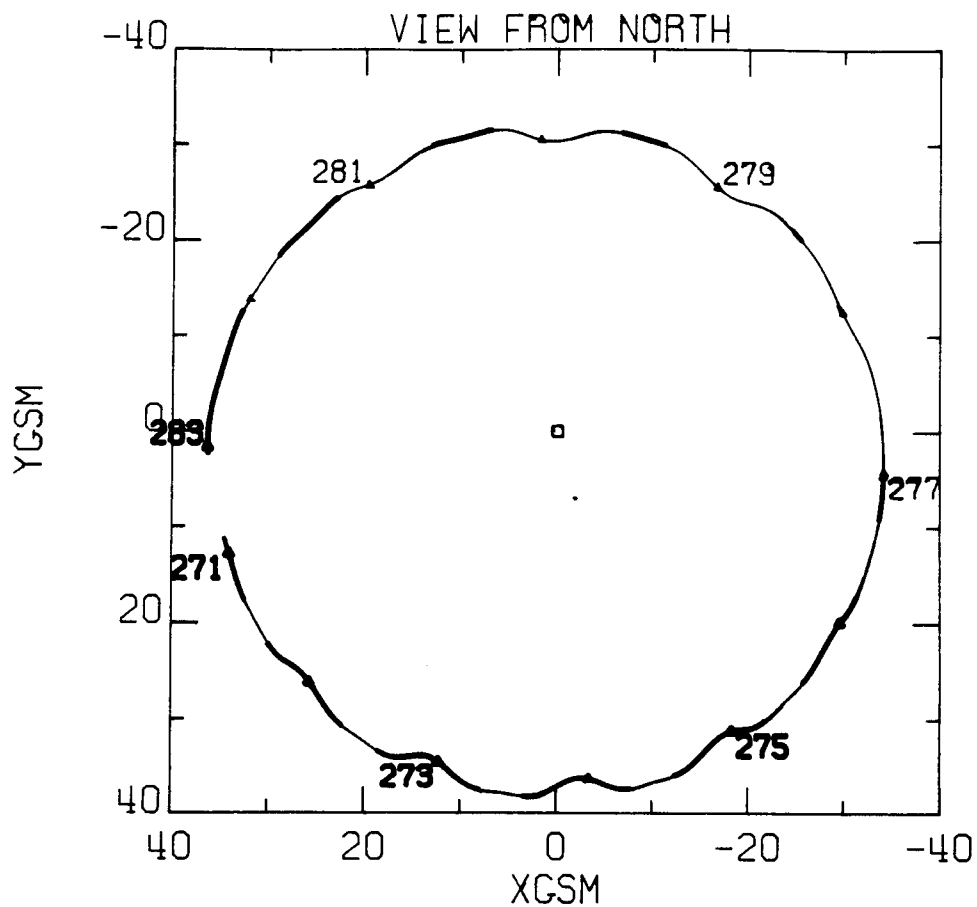
ASCENDING NODE 30

FROM SEP 15 TO SEP 27 1973

DAYS 258 THRU 270

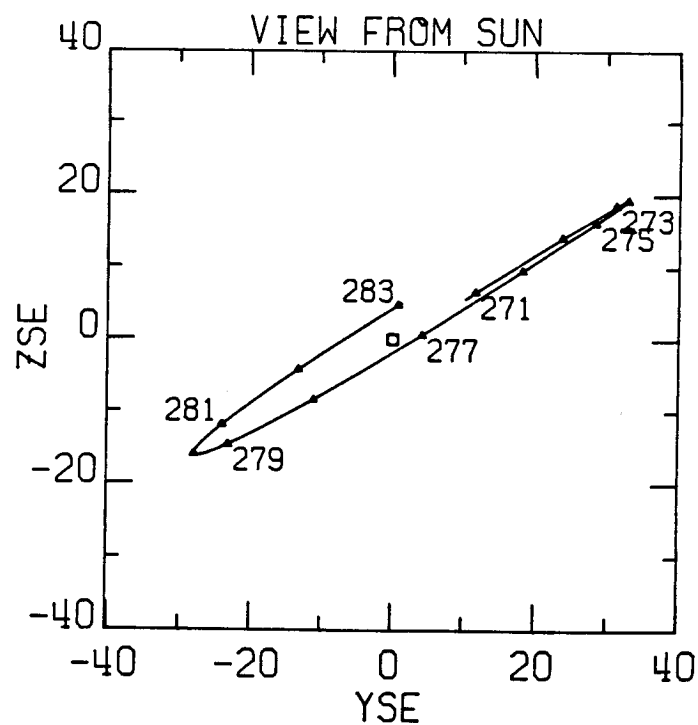
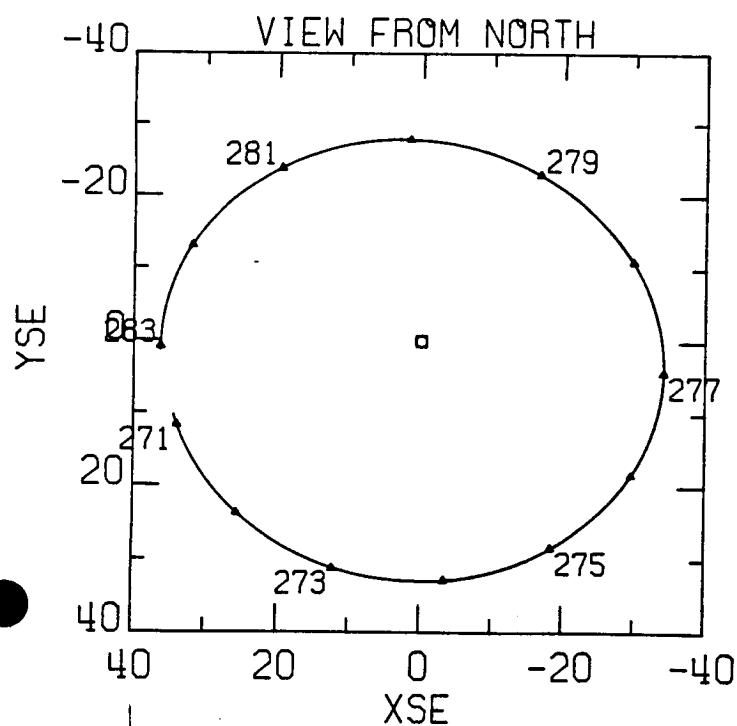
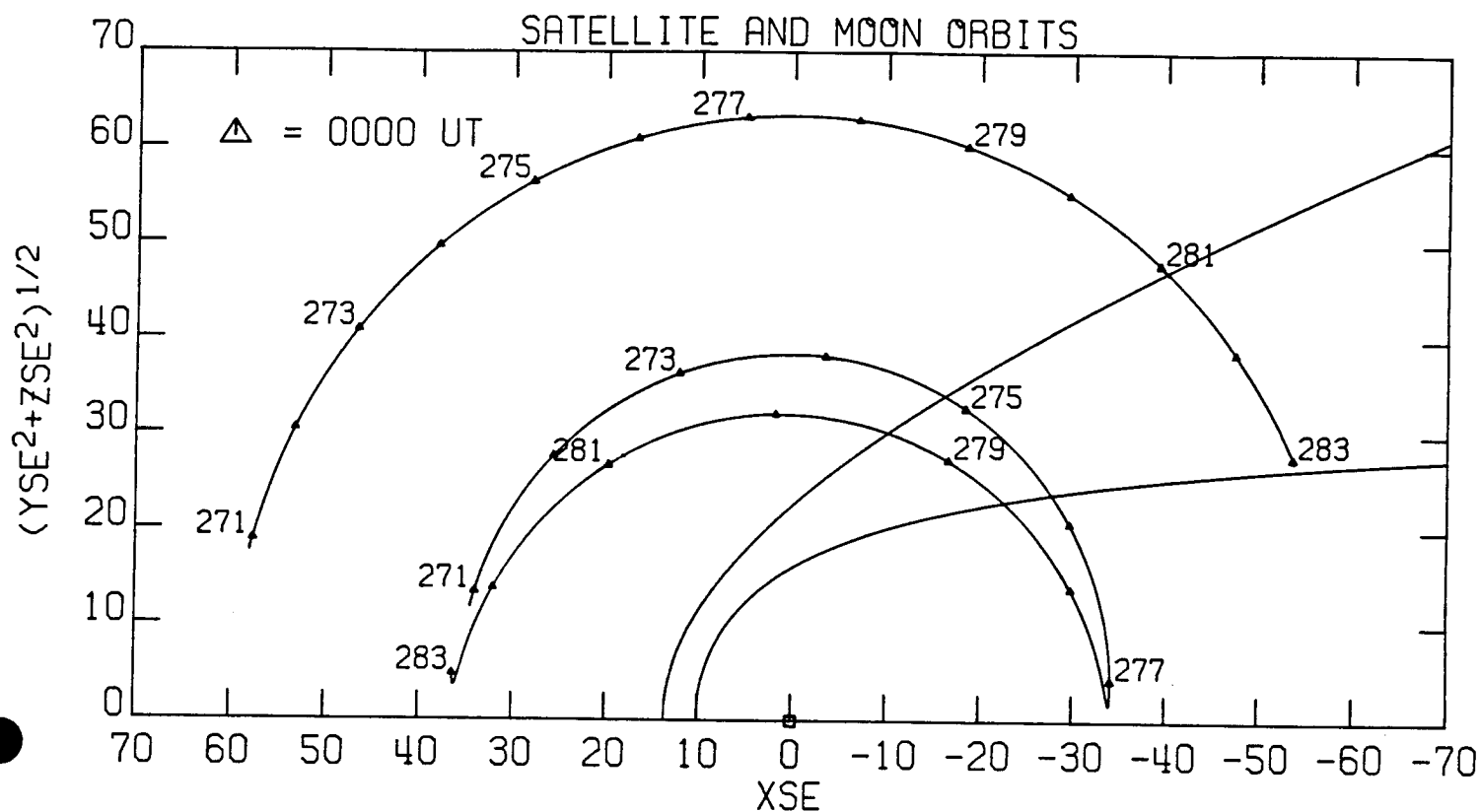


IMP 7 FROM SEP 27 TO OCT 10 1973

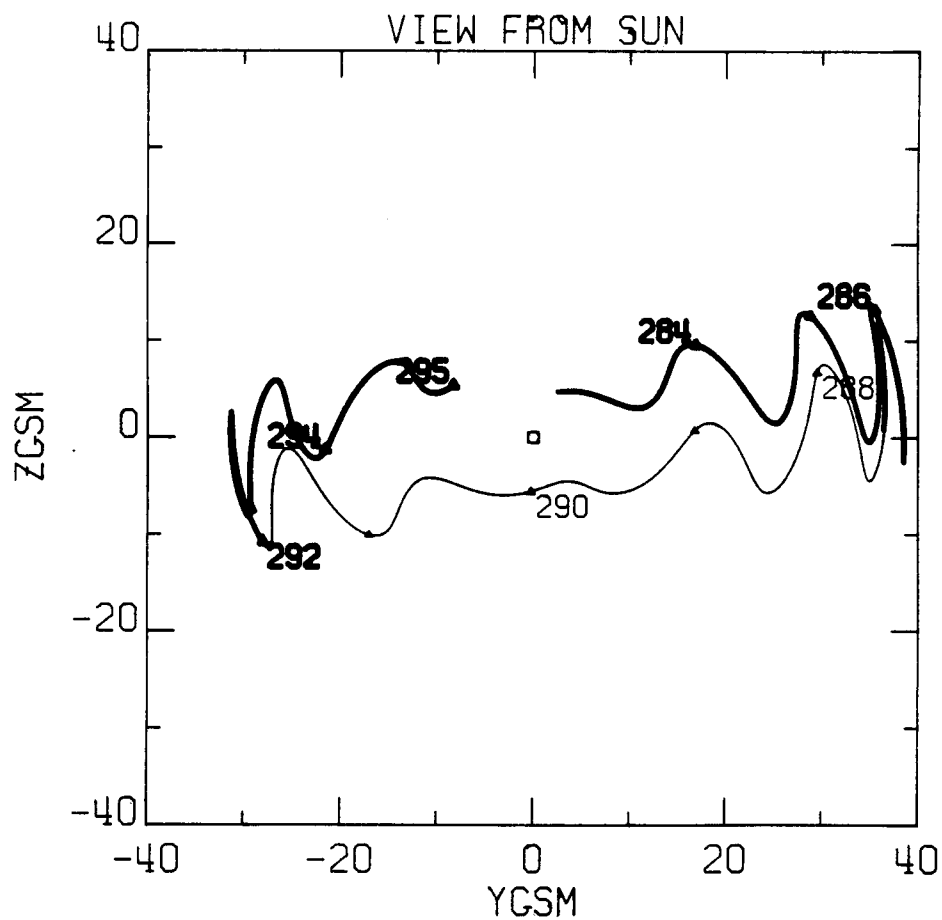
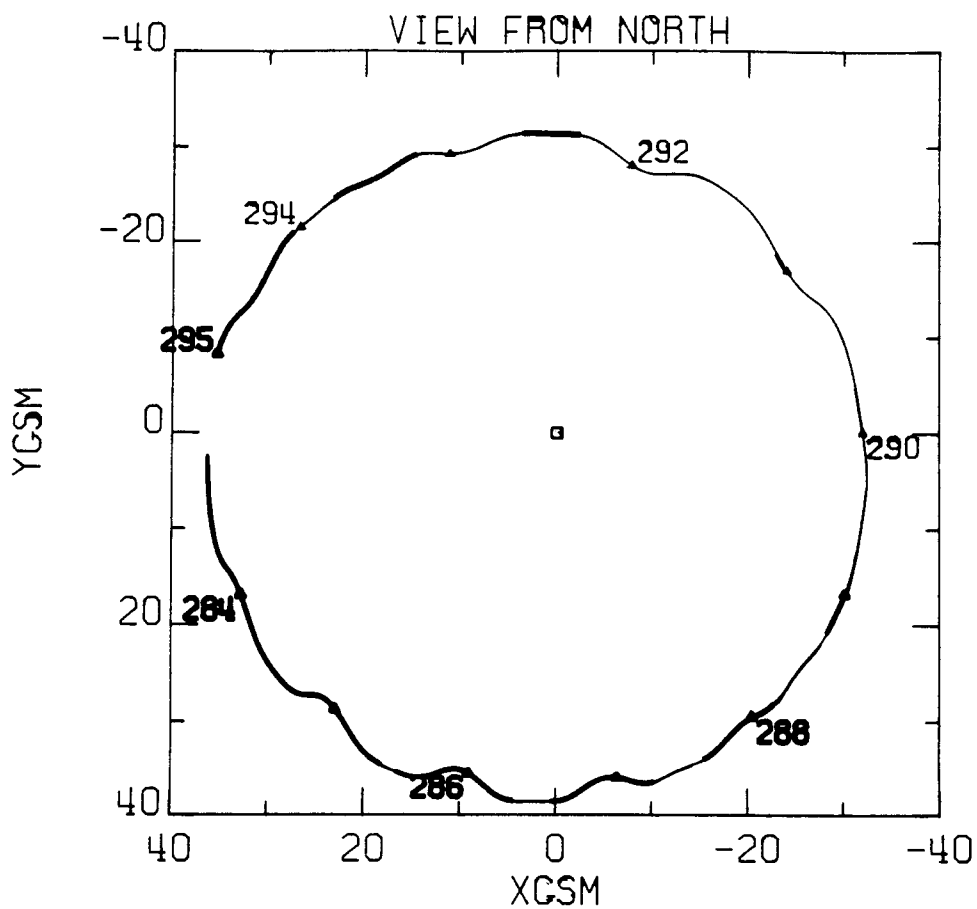


FROM SEP 27 TO OCT 10 1973

DAYS 270 THRU 283



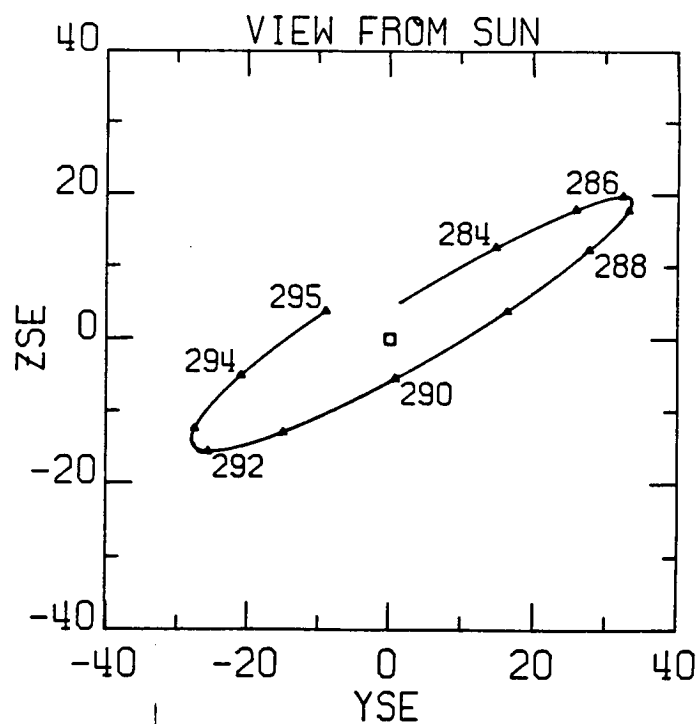
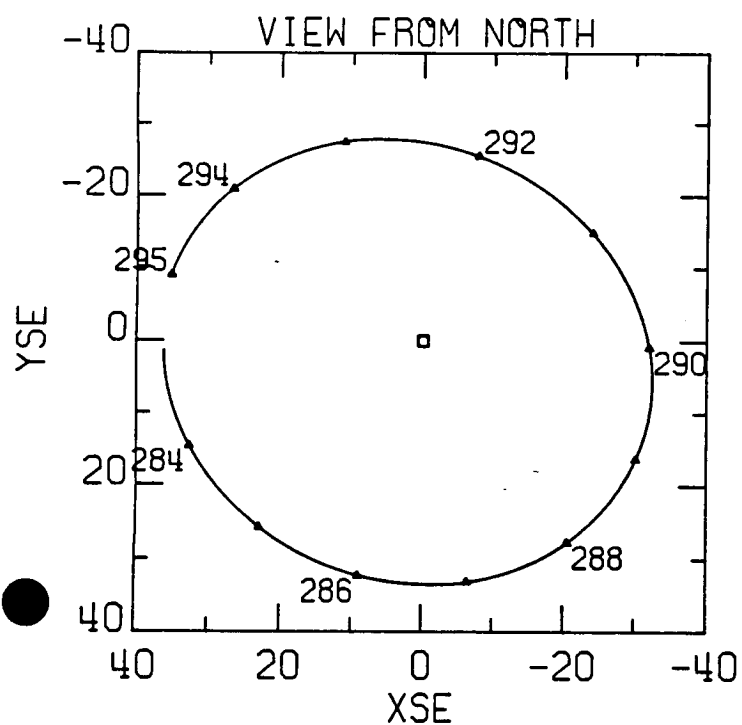
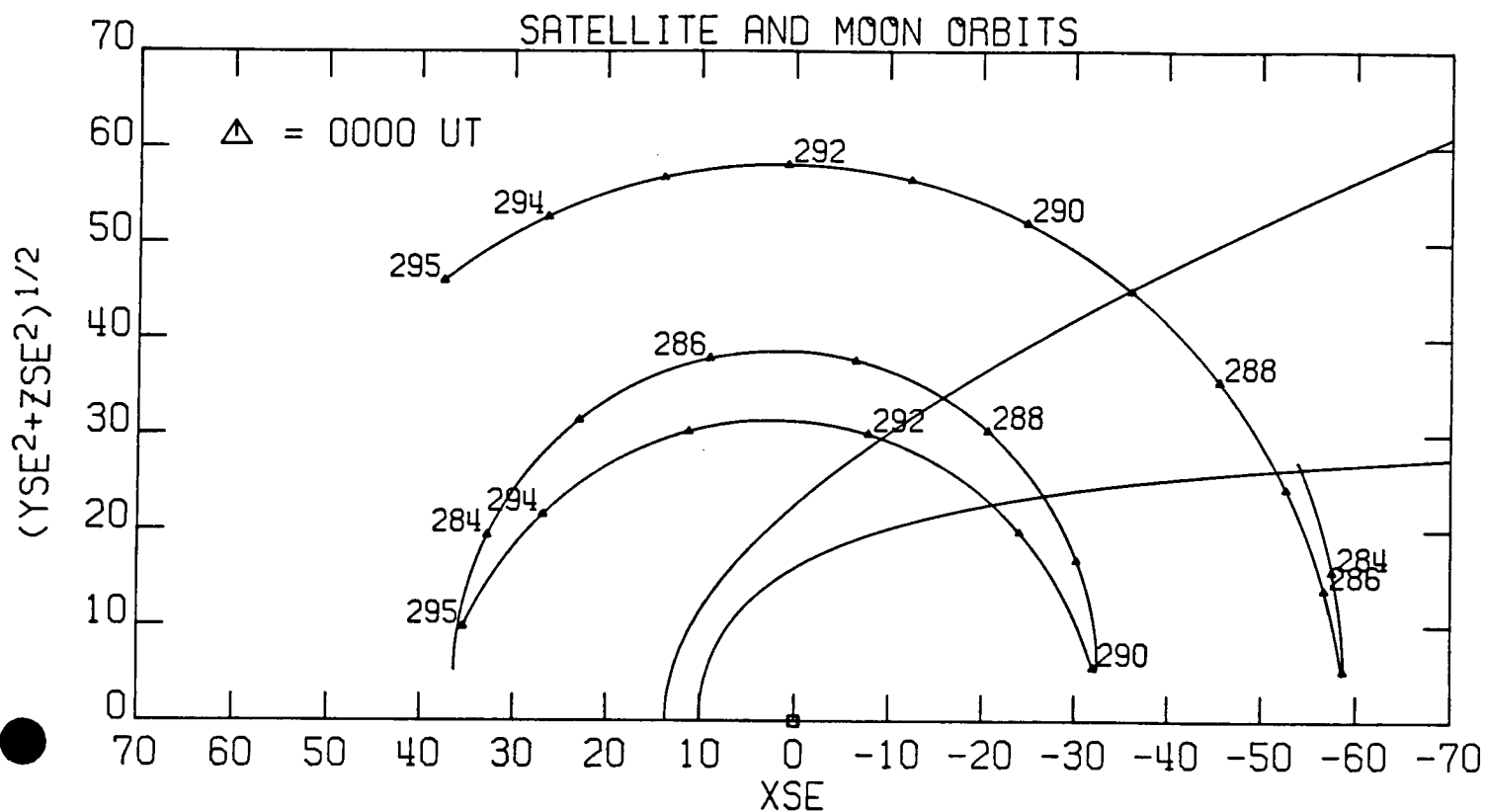
IMP 7 FROM OCT 10 TO OCT 22 1973



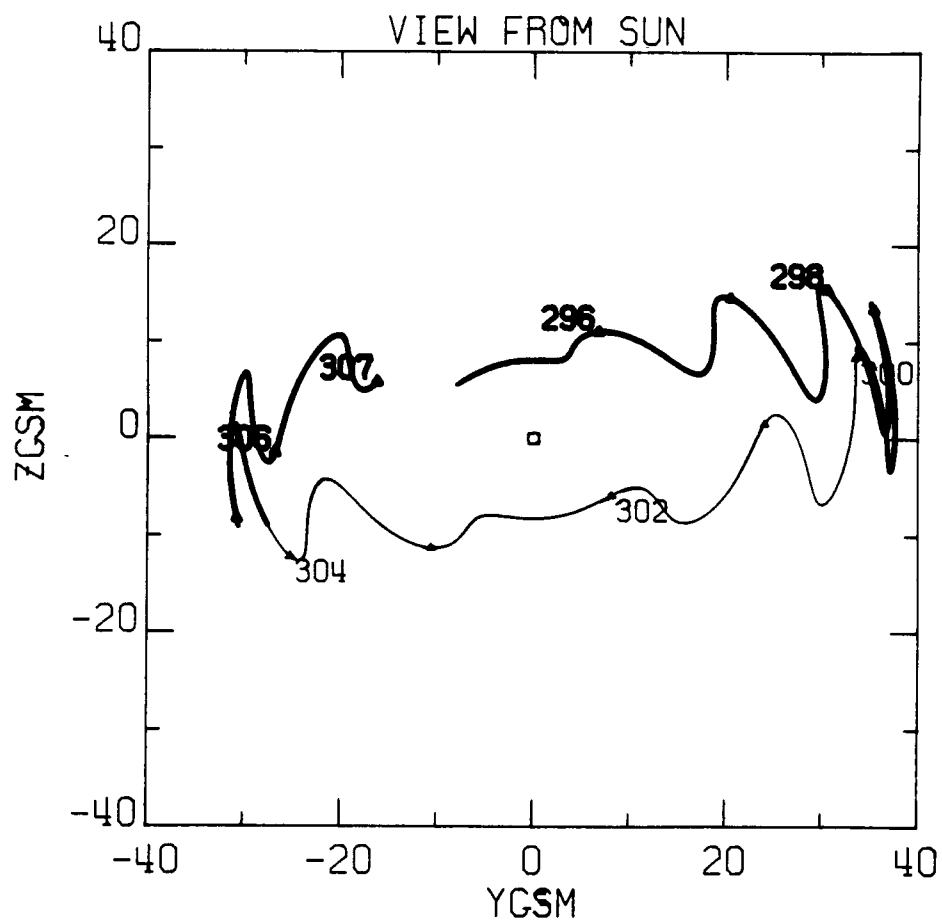
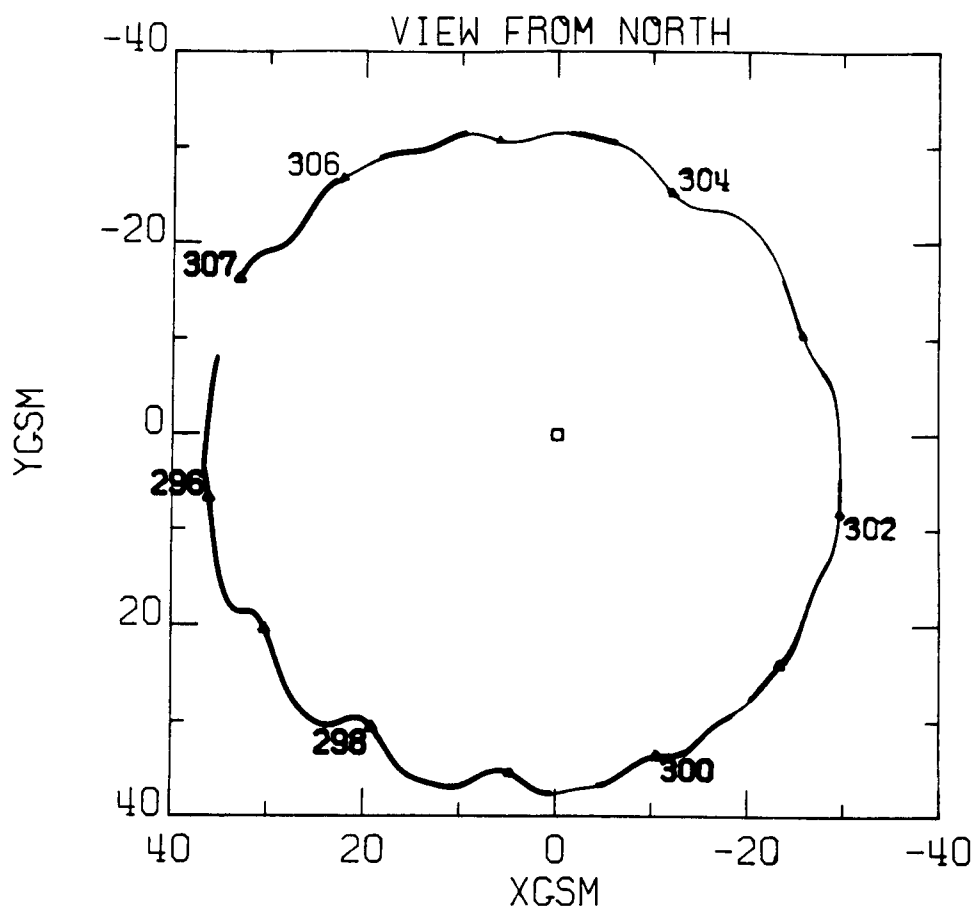
IMP 7 TRAJECTORY. ASCENDING NODE 32

FROM OCT 10 TO OCT 22 1973

DAYS 283 THRU 295



IMP 7 FROM OCT 22 TO NOV 3 1973

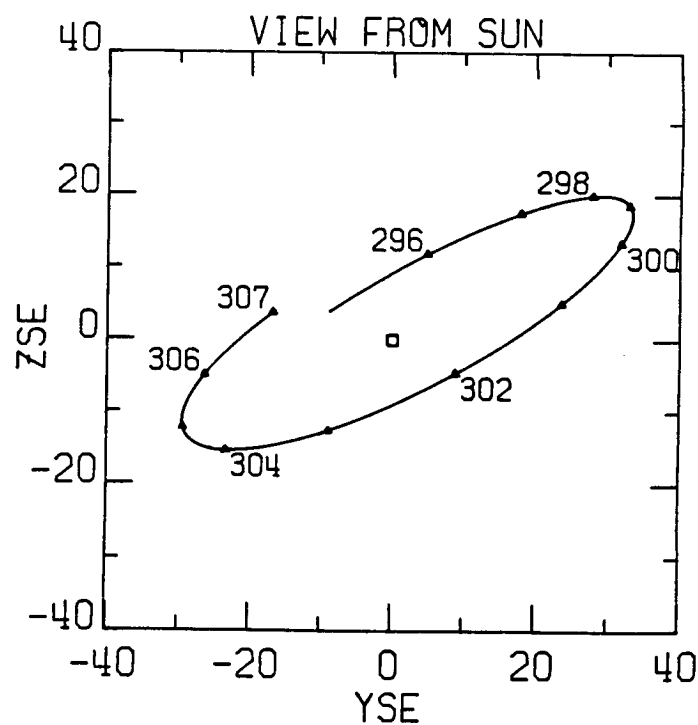
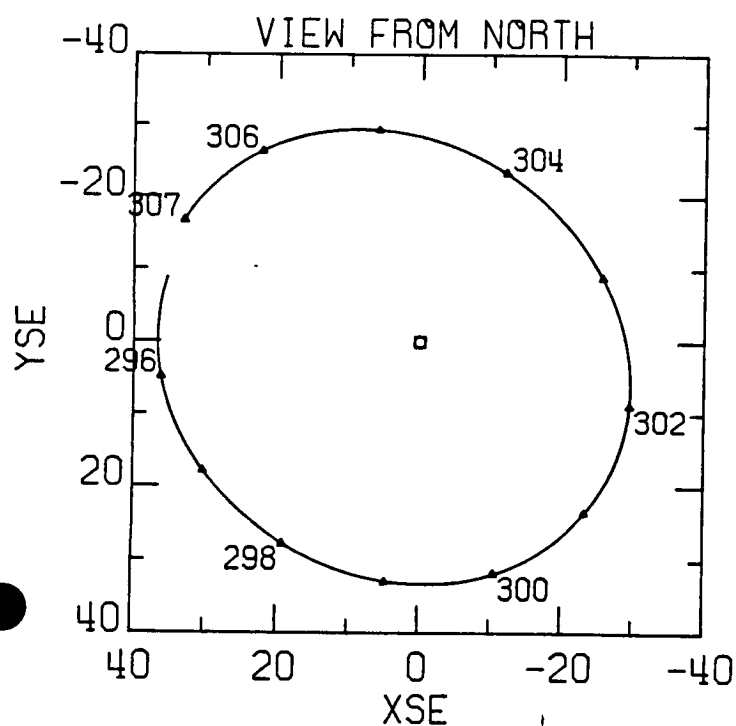
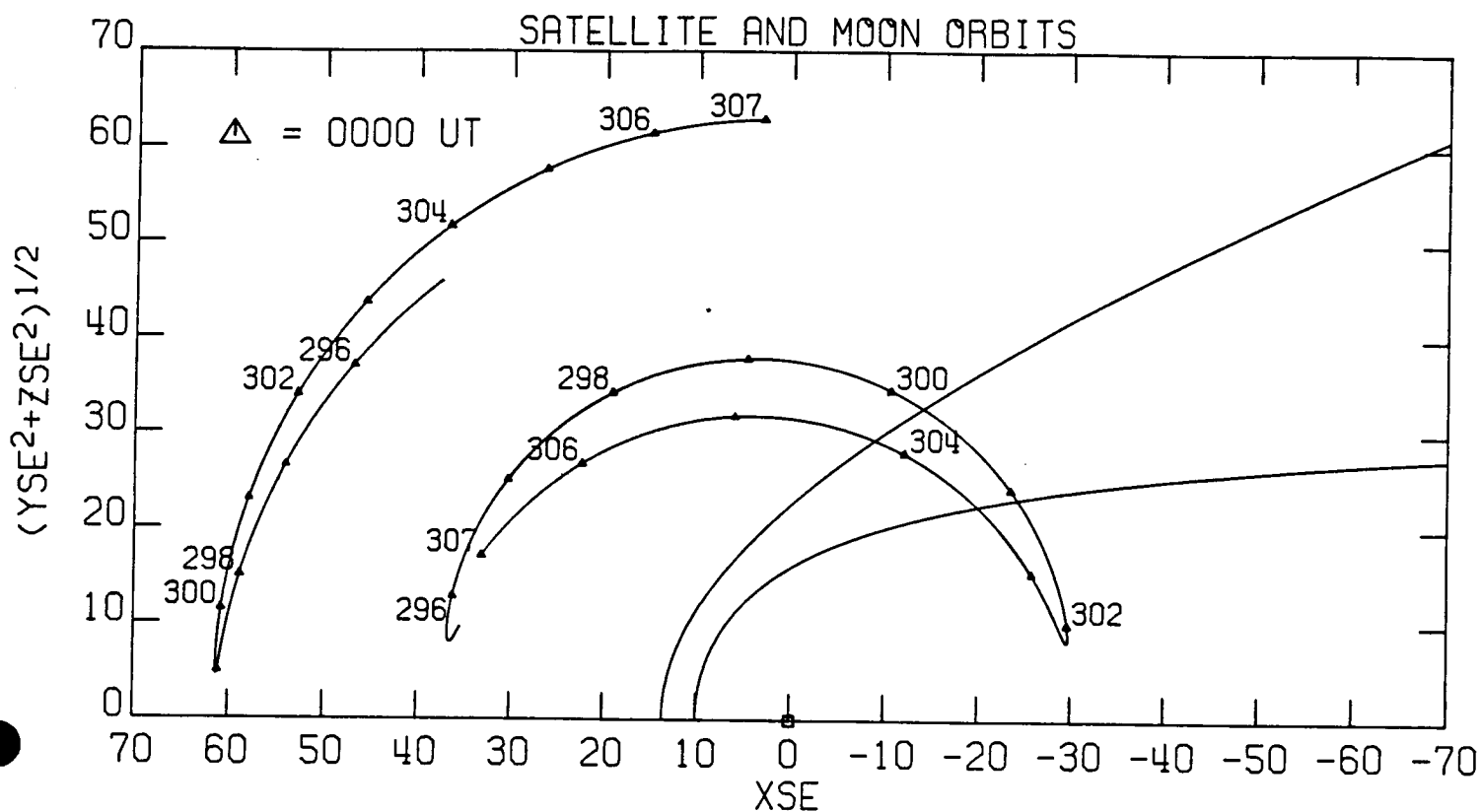


IMP 7 TRAJECTORY.

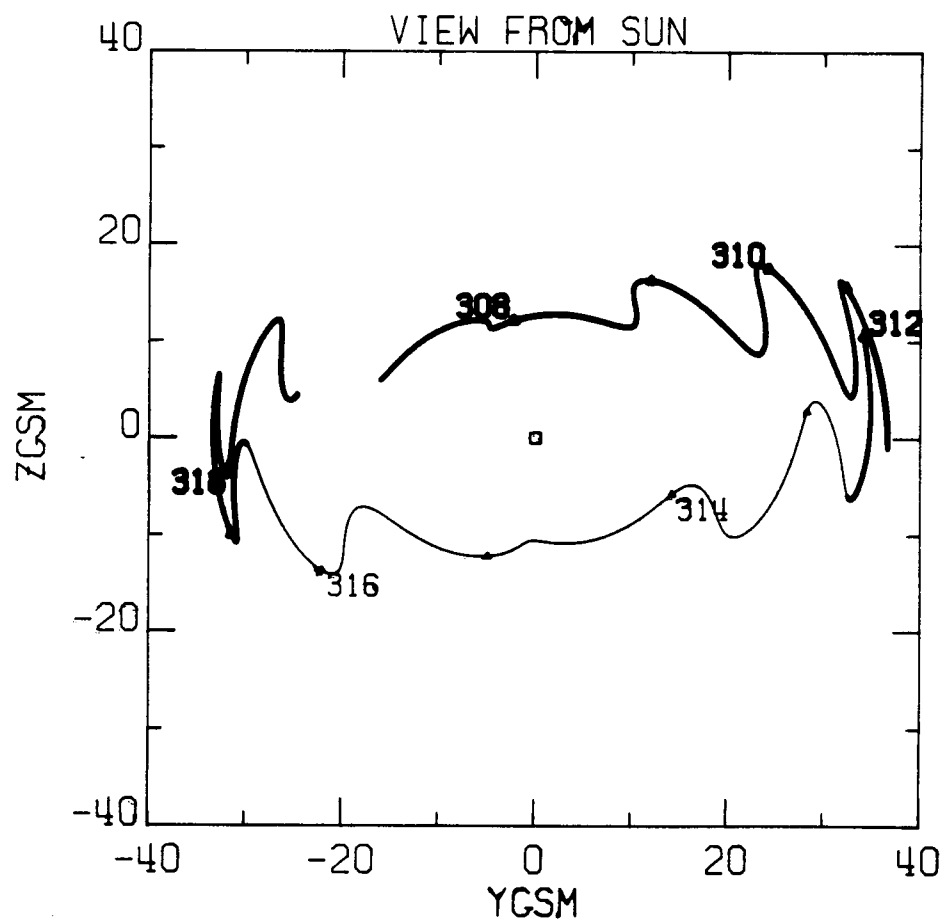
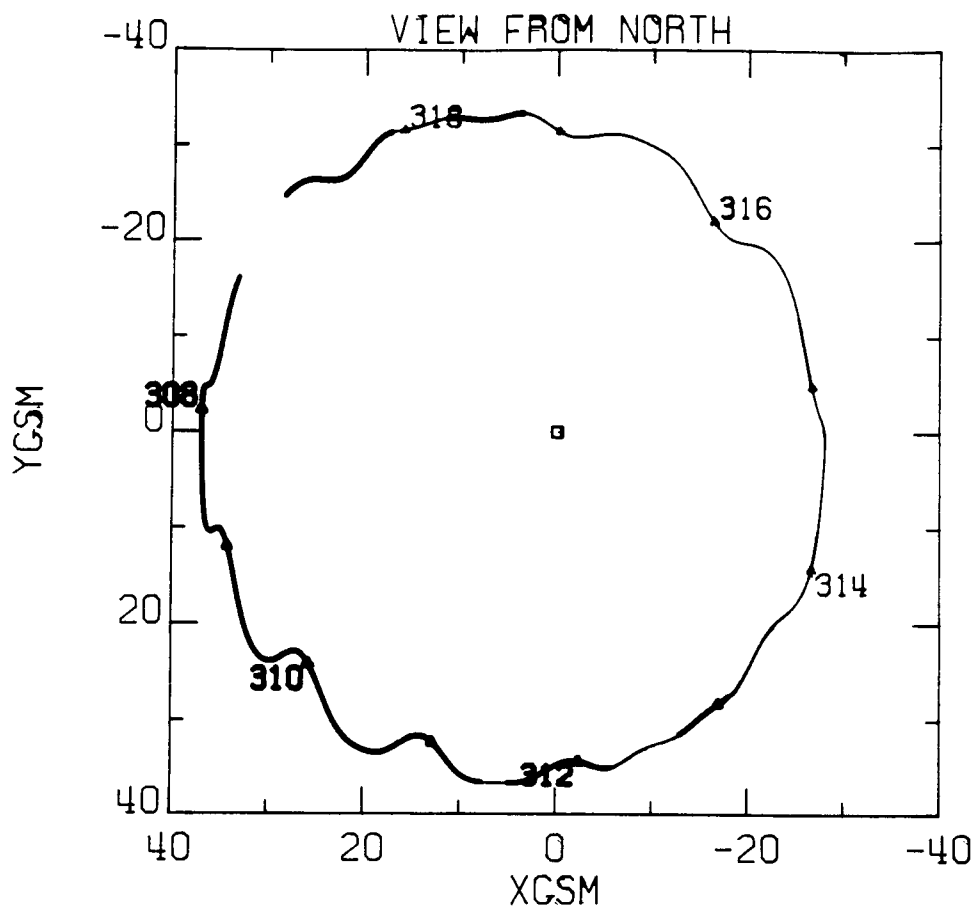
ASCENDING NODE 33

FROM OCT 22 TO NOV 3 1973

DAYS 295 THRU 307

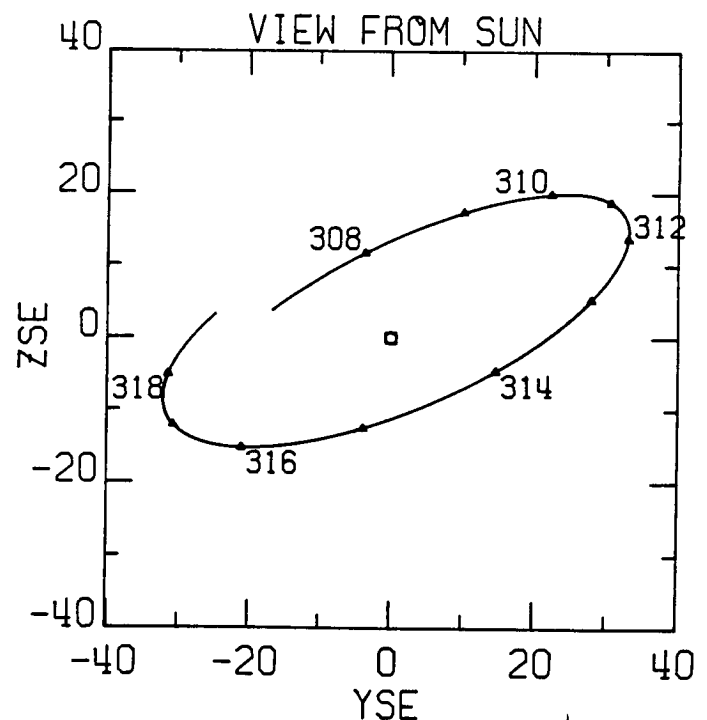
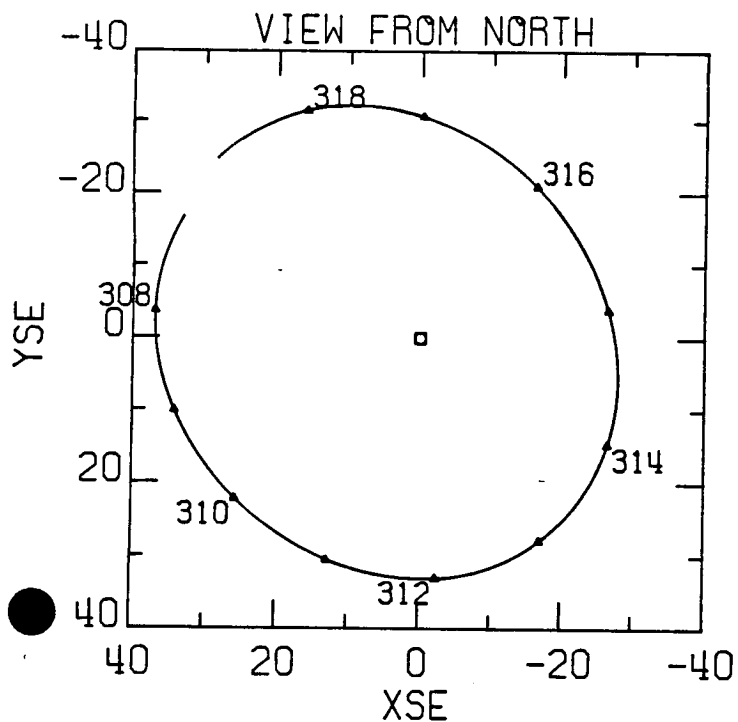
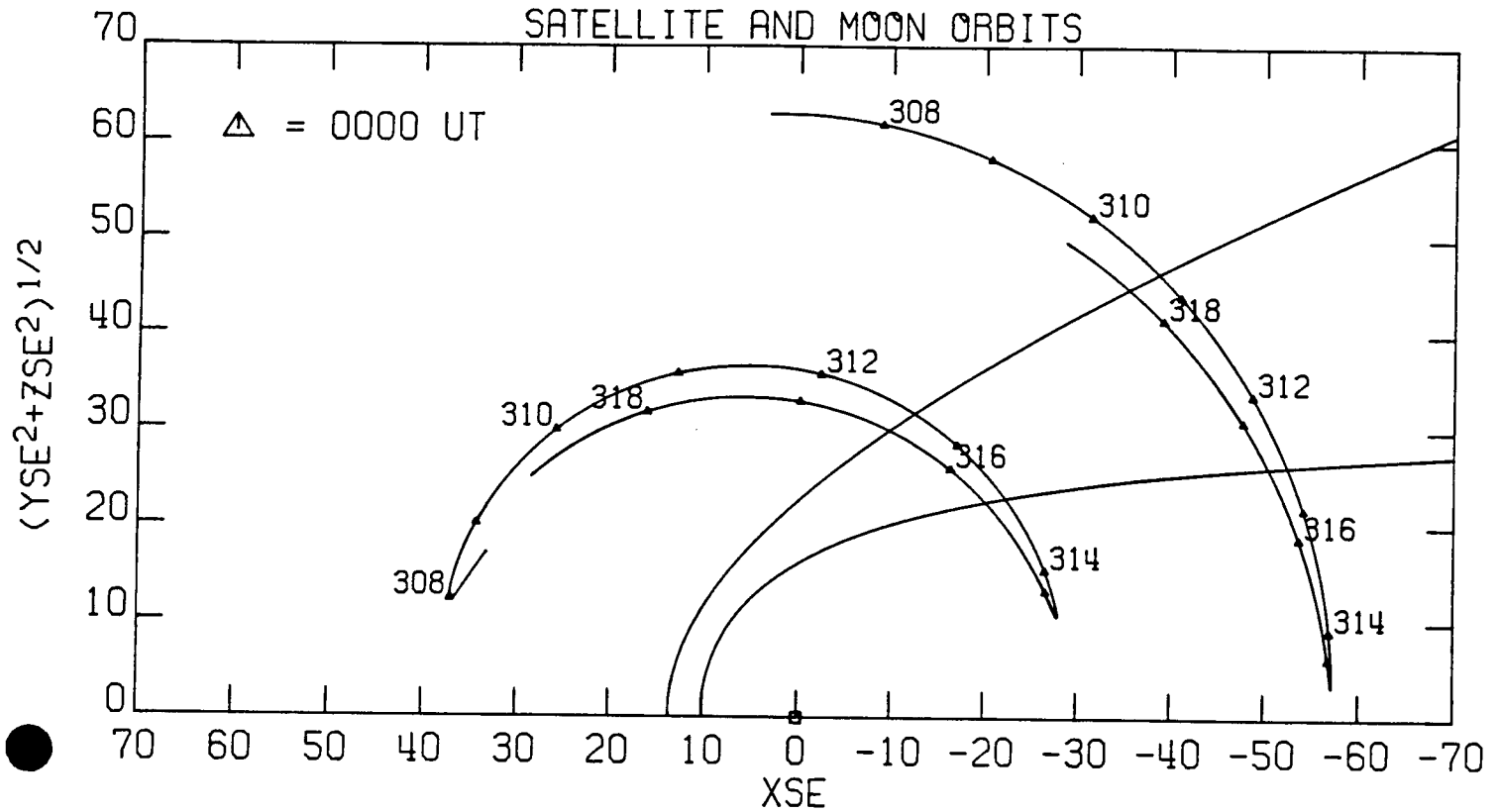


IMP 7 FROM NOV 3 TO NOV 14 1973

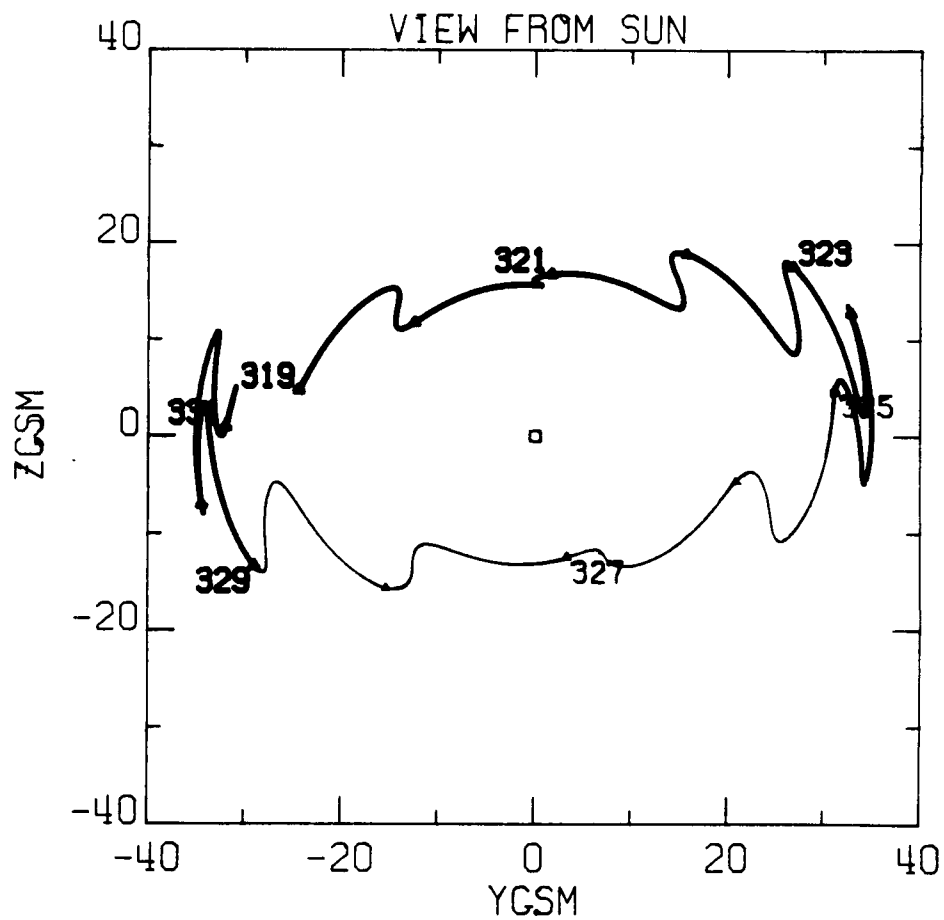
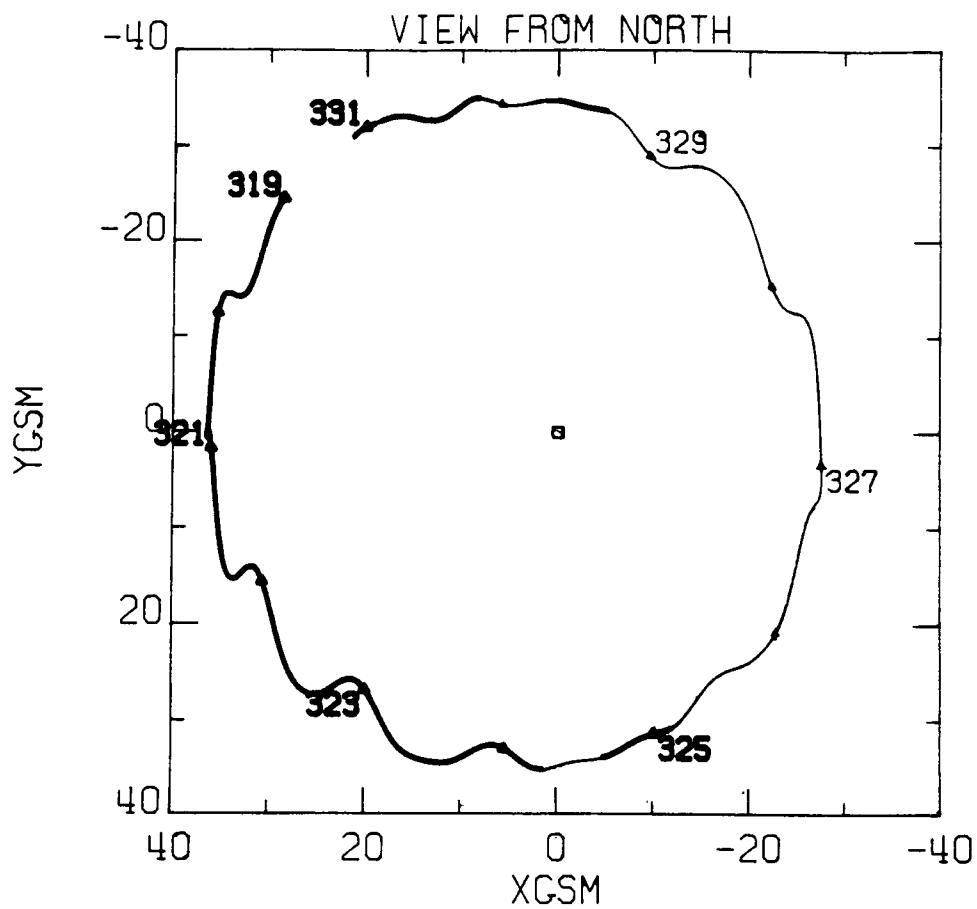


FROM NOV 3 TO NOV 14 1973

DAYS 307 THRU 318



IMP 7 FROM NOV 14 TO NOV 27 1973

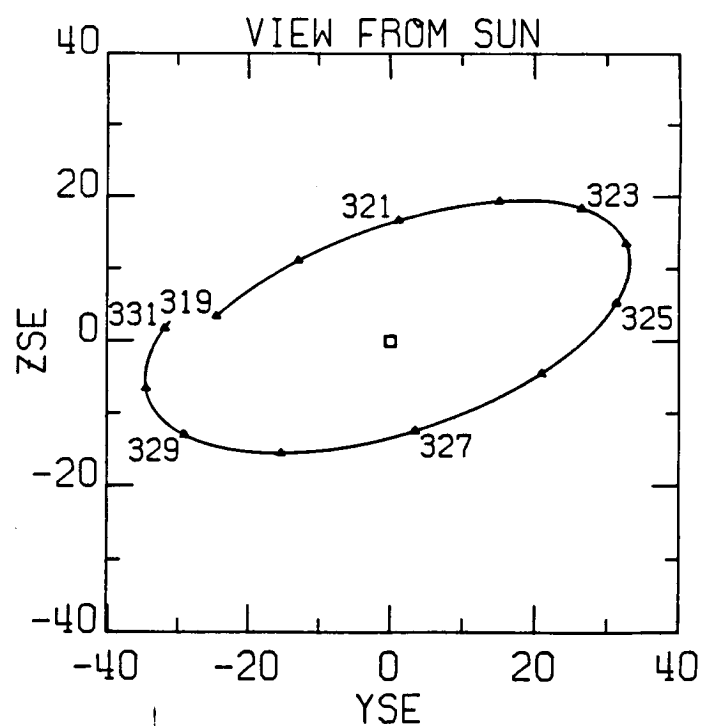
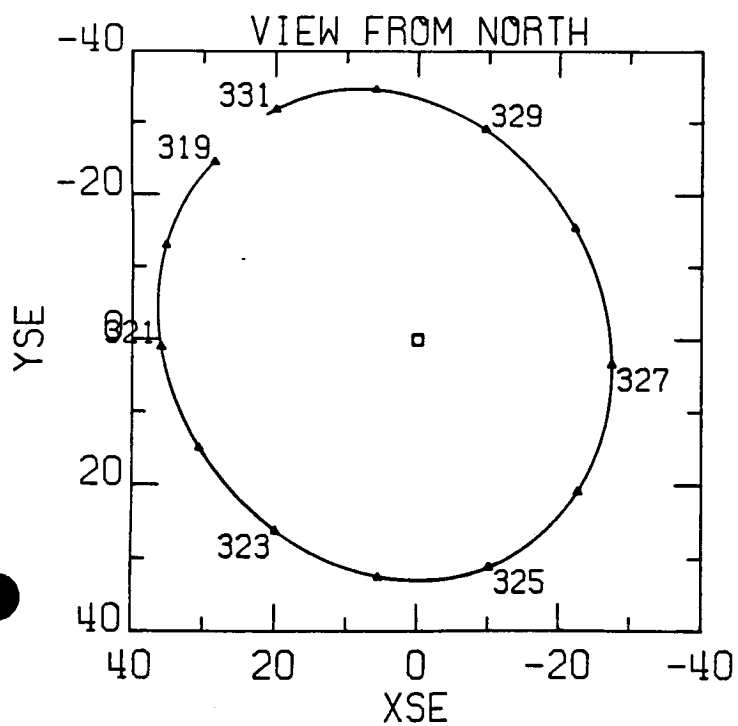
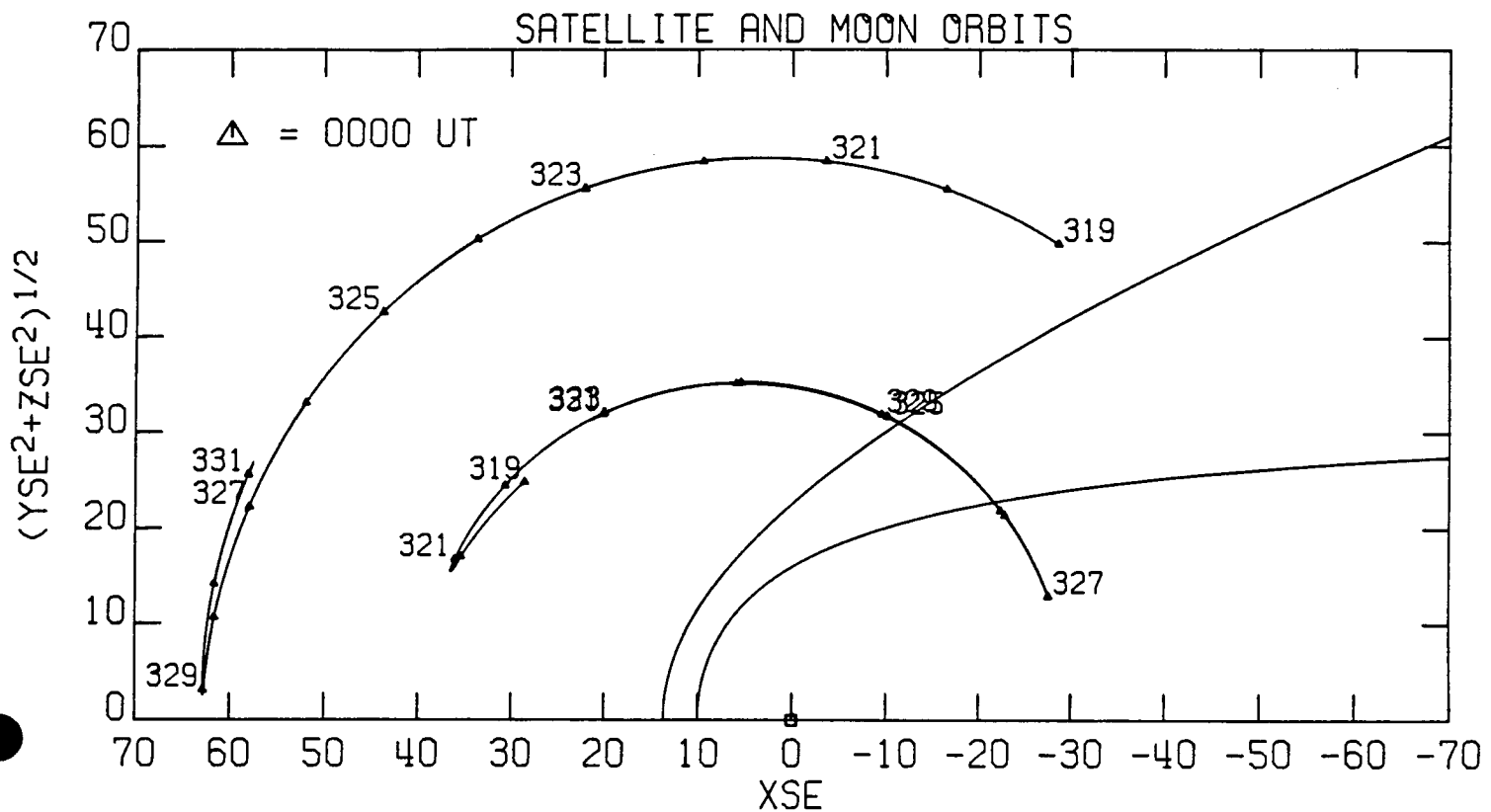


IMP 7 TRAJECTORY.

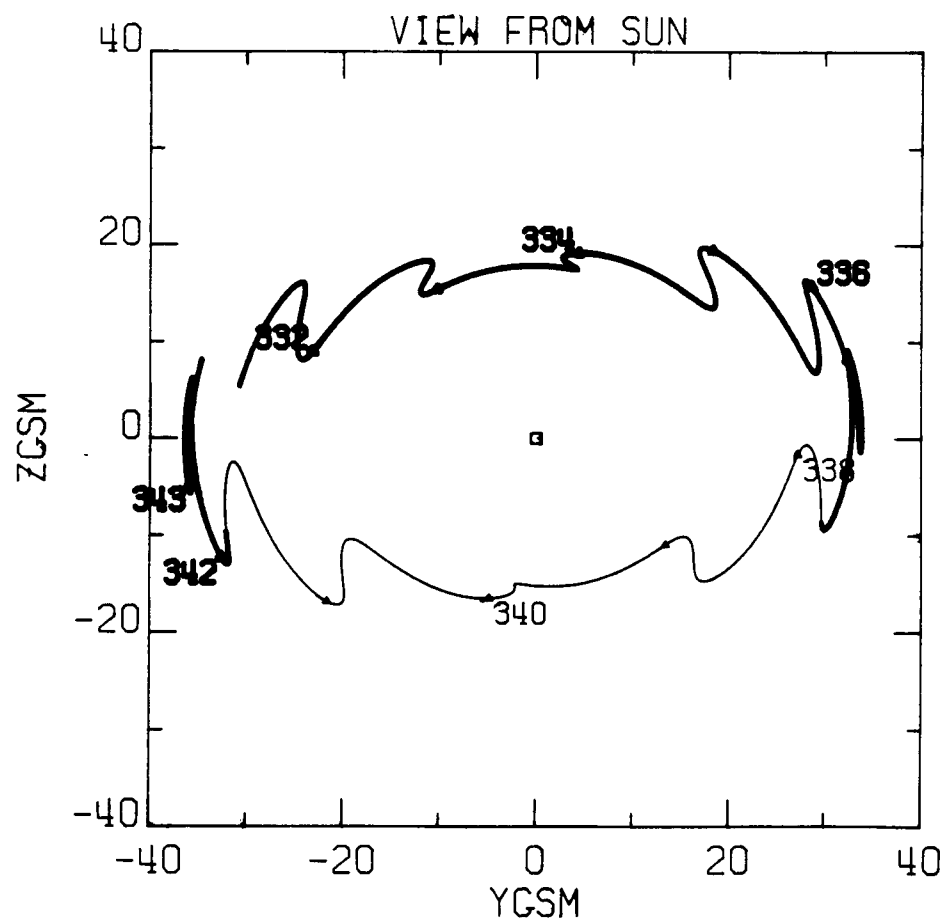
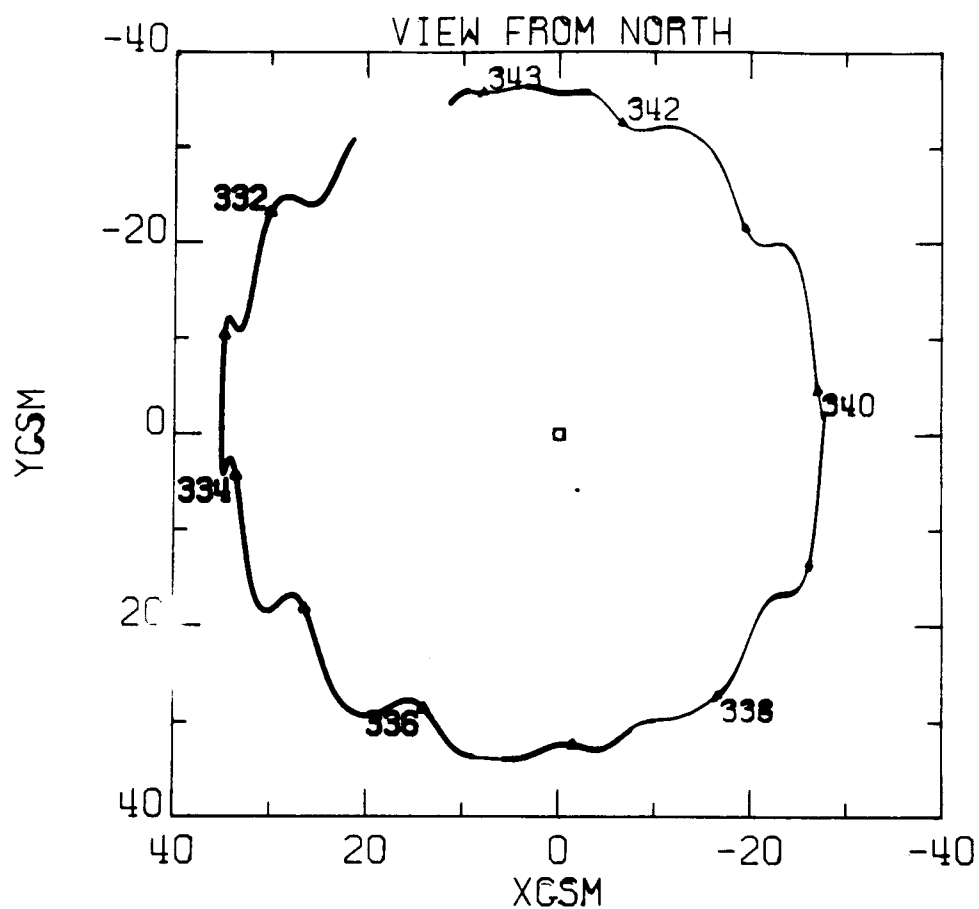
ASCENDING NODE 35

FROM NOV 14 TO NOV 27 1973

DAYS 318 THRU 331



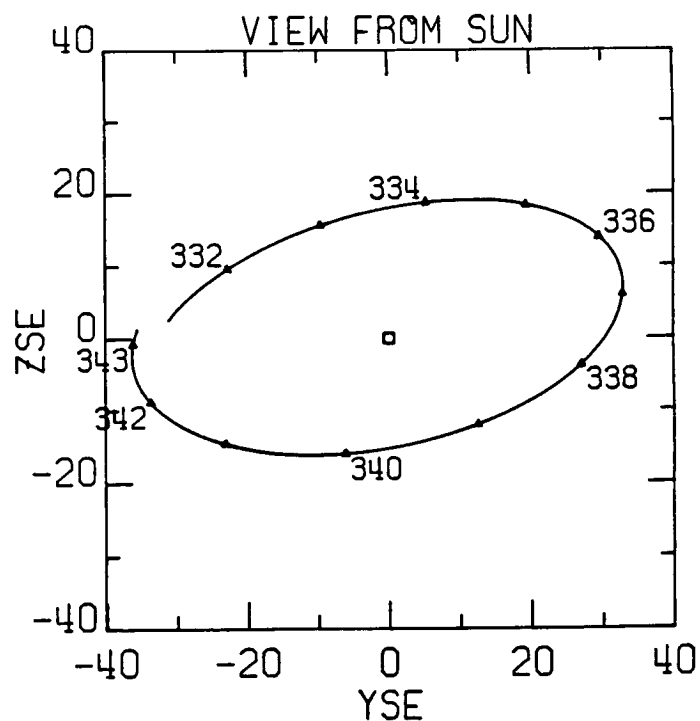
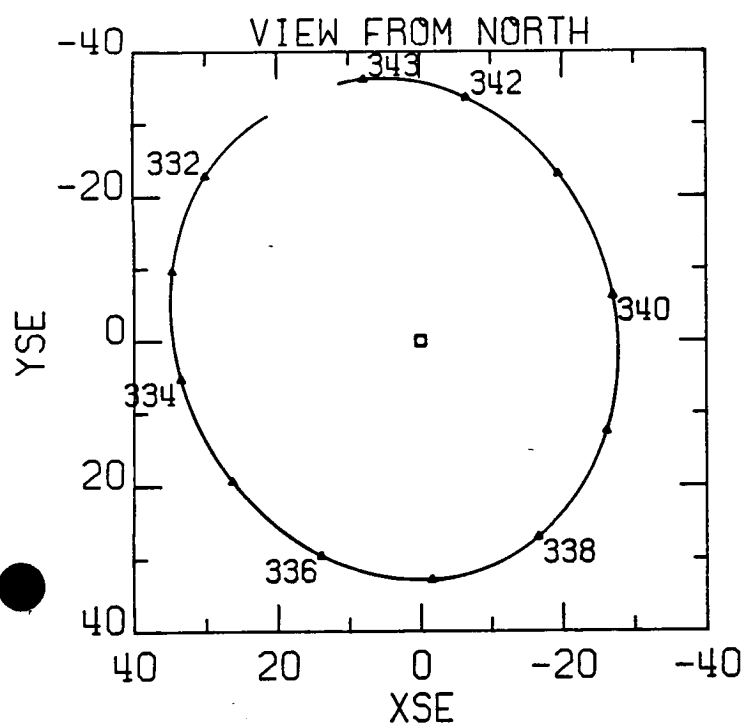
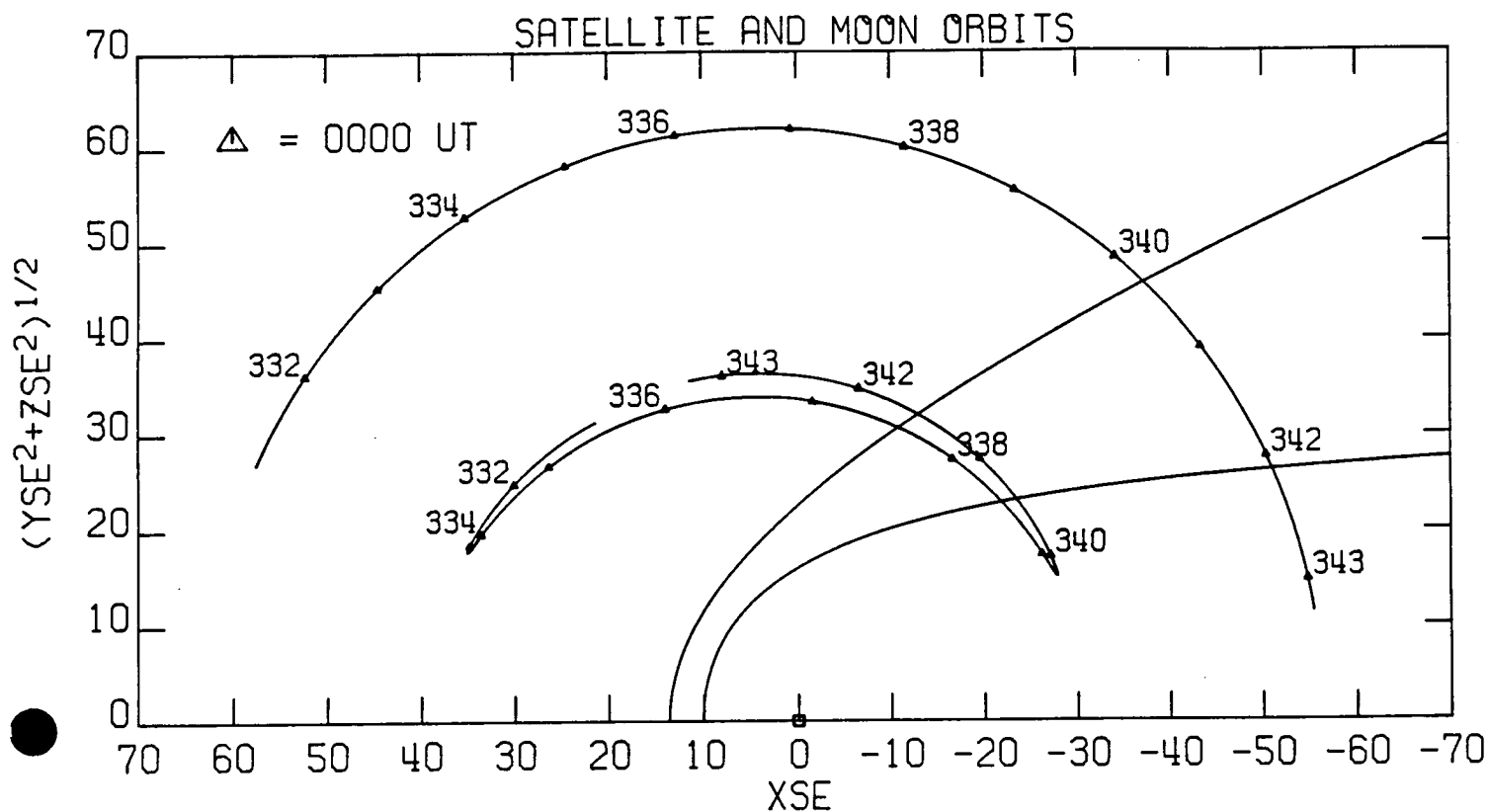
IMP 7 FROM NOV 27 TO DEC 9 1973



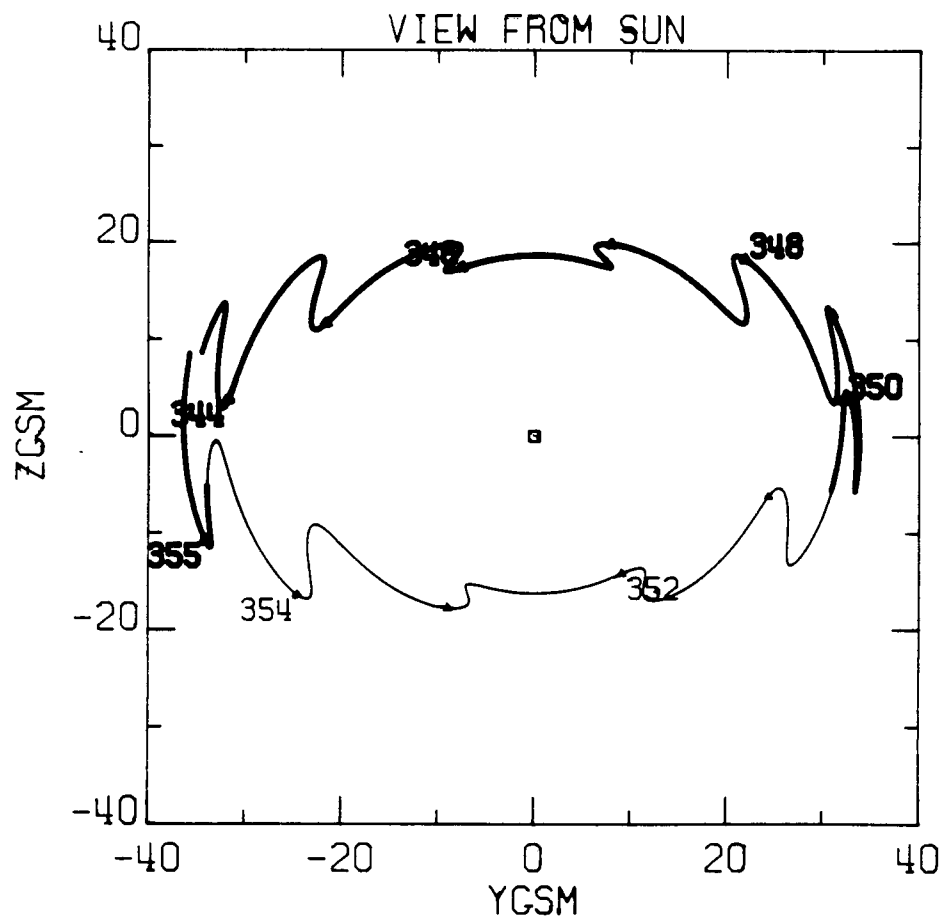
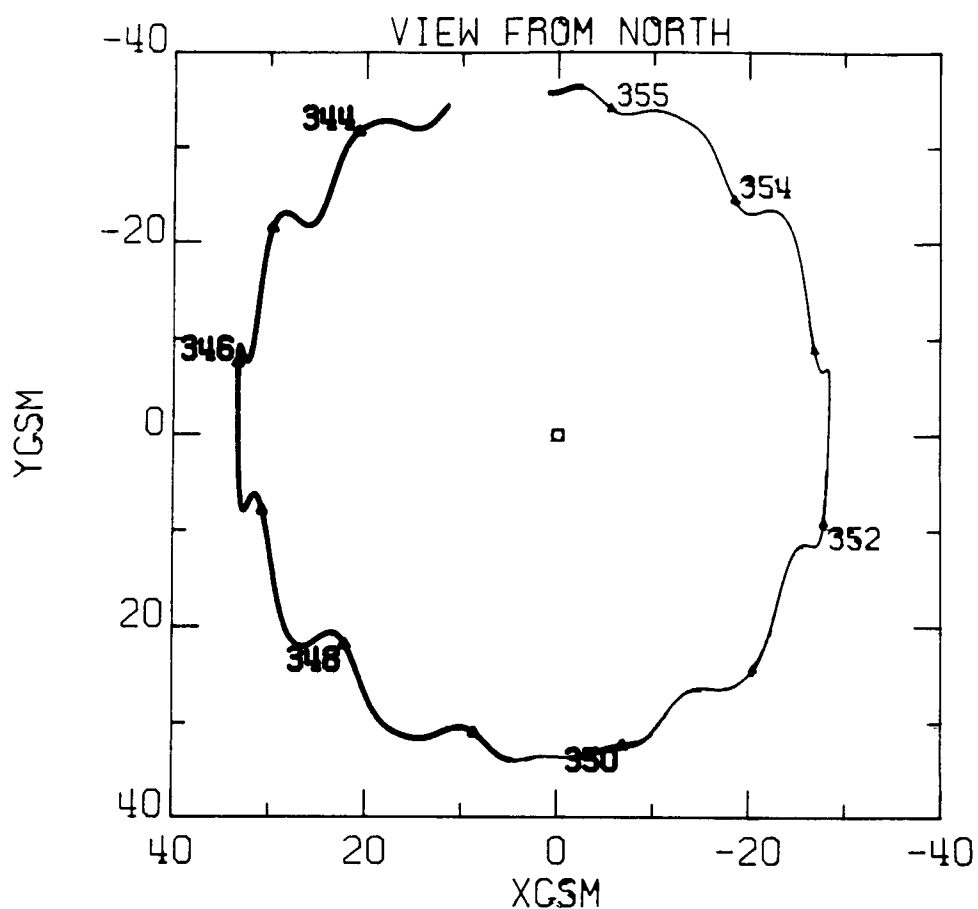
IMP 7 TRAJECTORY. ASCENDING NODE 36

FROM NOV 27 TO DEC 9 1973

DAYS 331 THRU 343



IMP 7 FROM DEC 9 TO DEC 21 1973



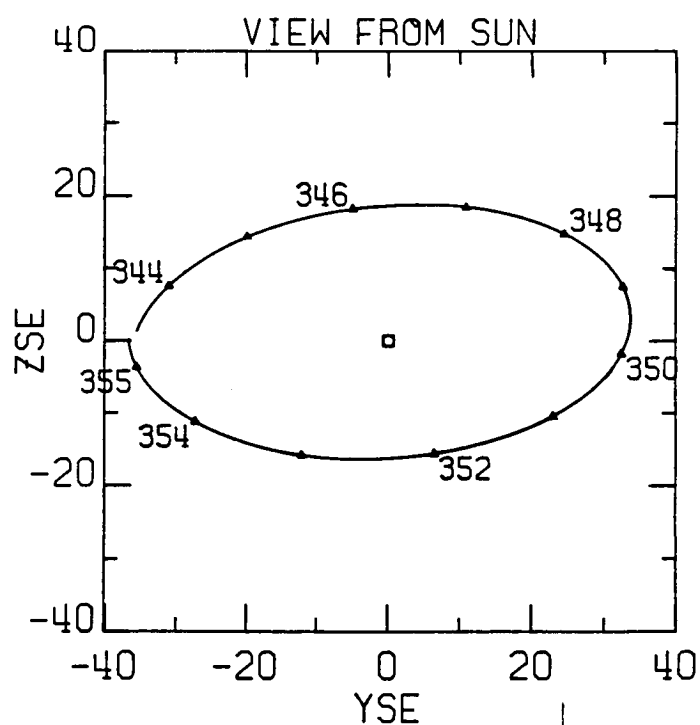
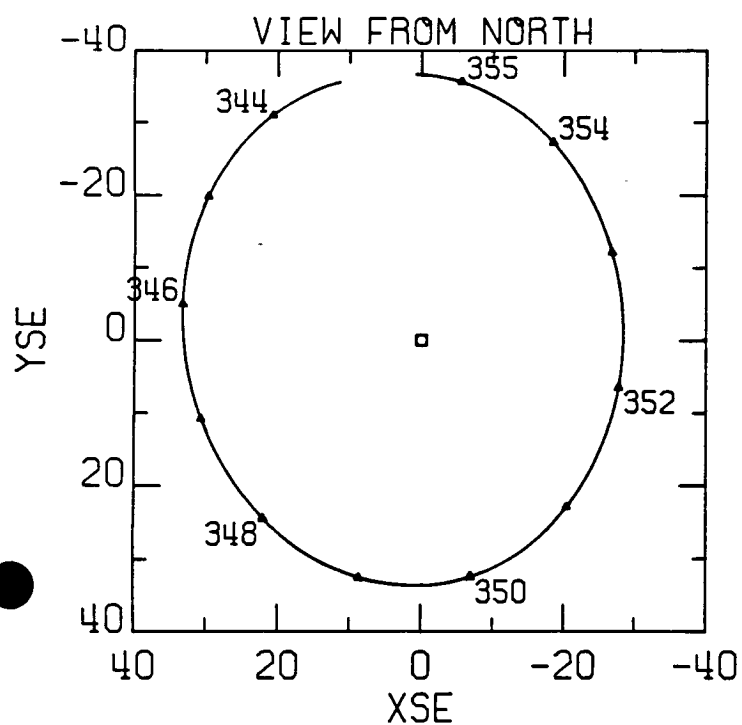
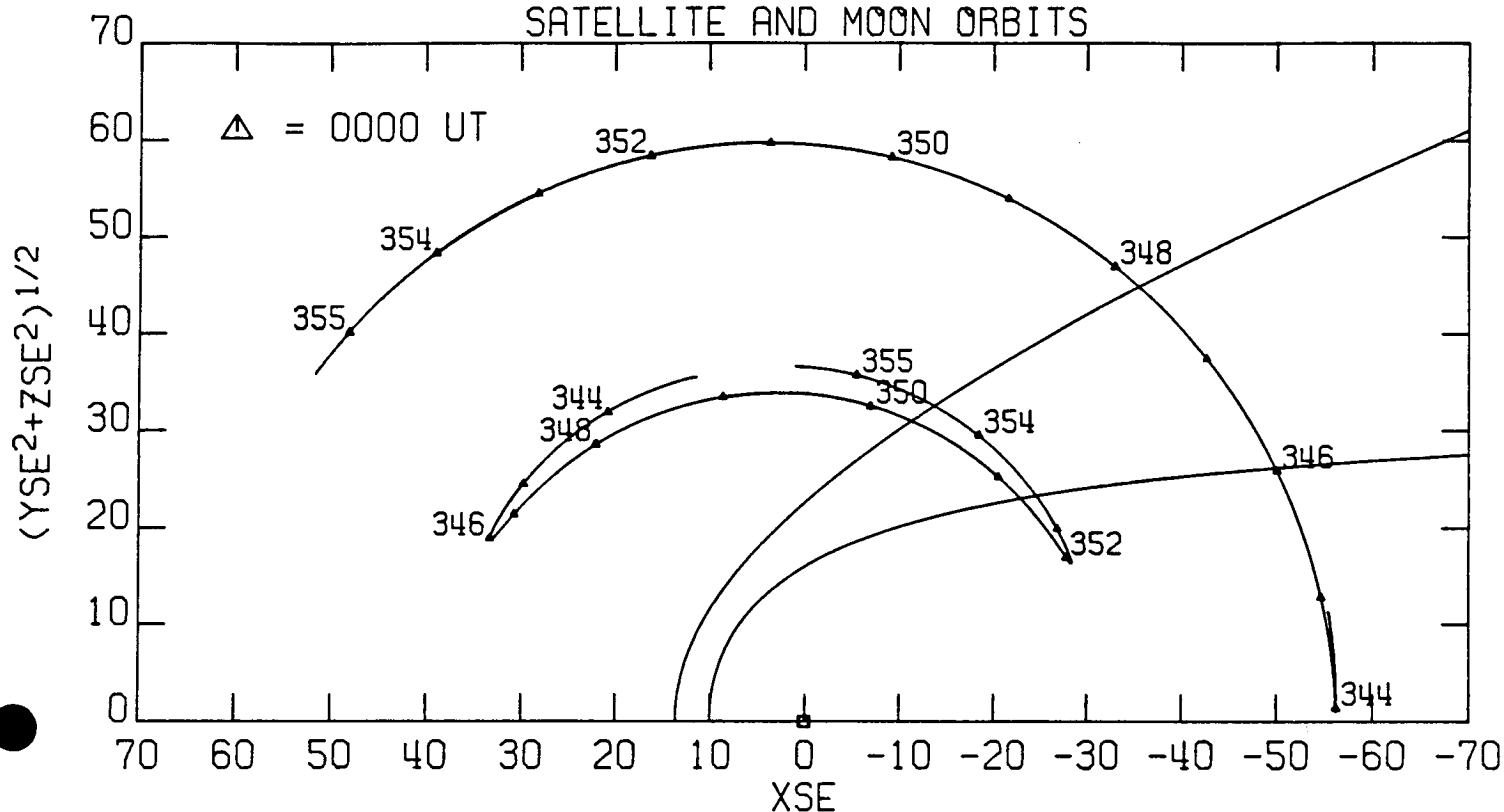
IMP 7 TRAJECTORY.

ASCENDING NODE 37

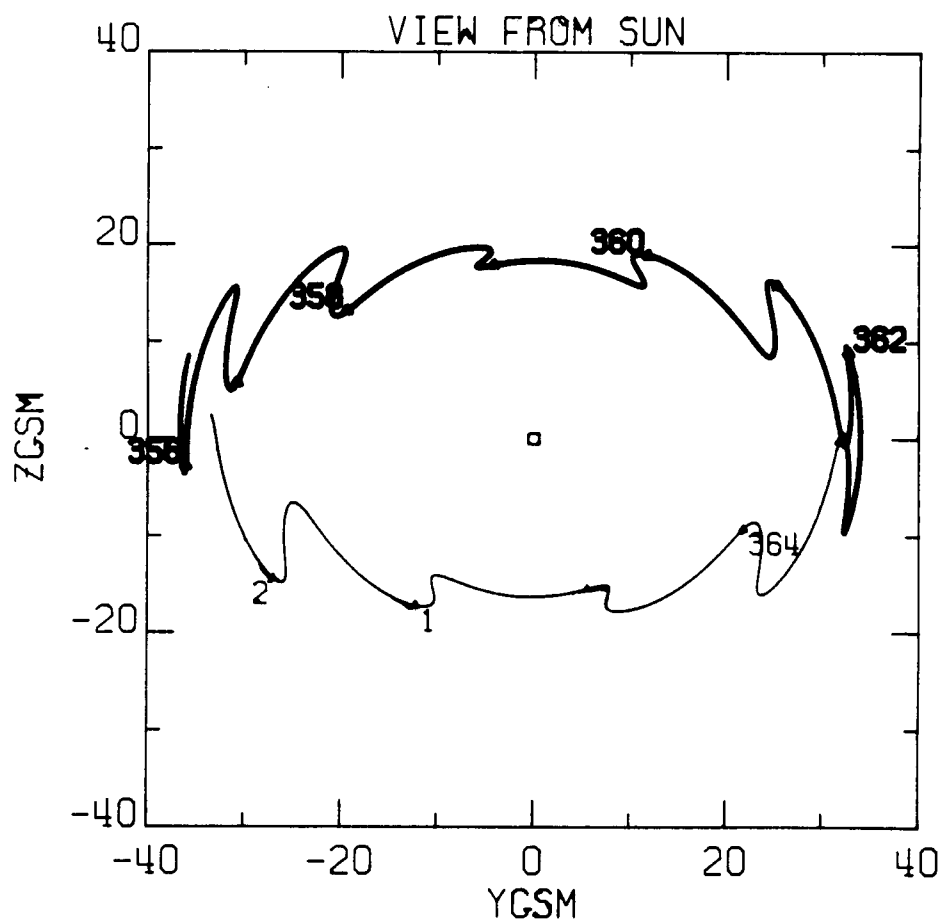
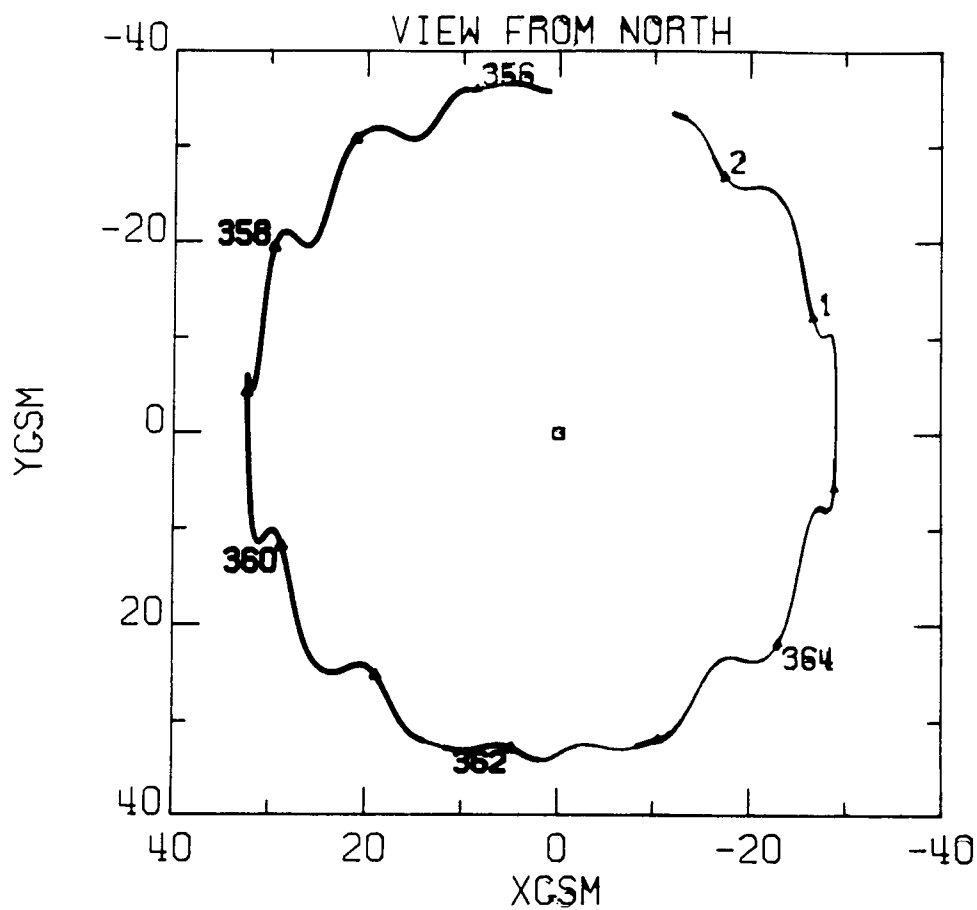
FROM DEC 9 TO DEC 21 1973

DAYS 343 THRU 355

SATELLITE AND MOON ORBITS



IMP 7 FROM DEC 21 TO JAN 2 1974

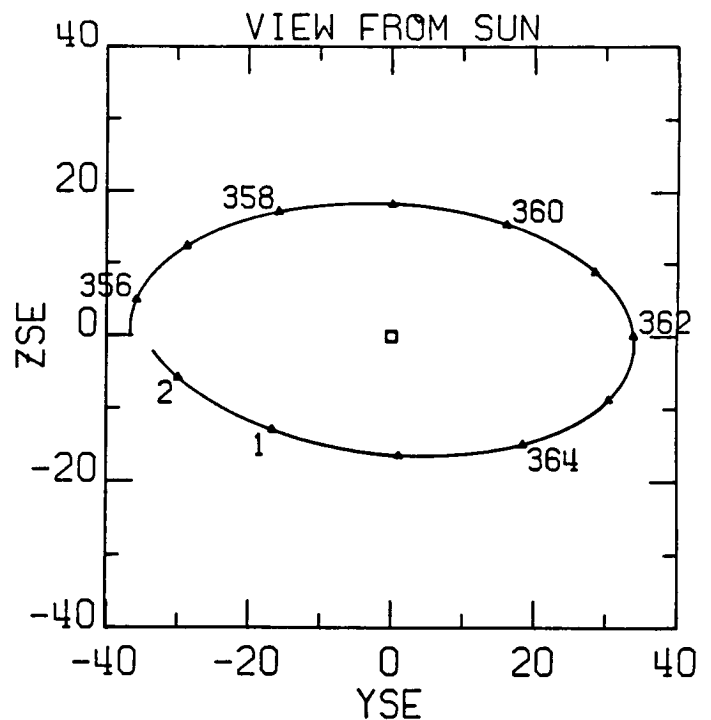
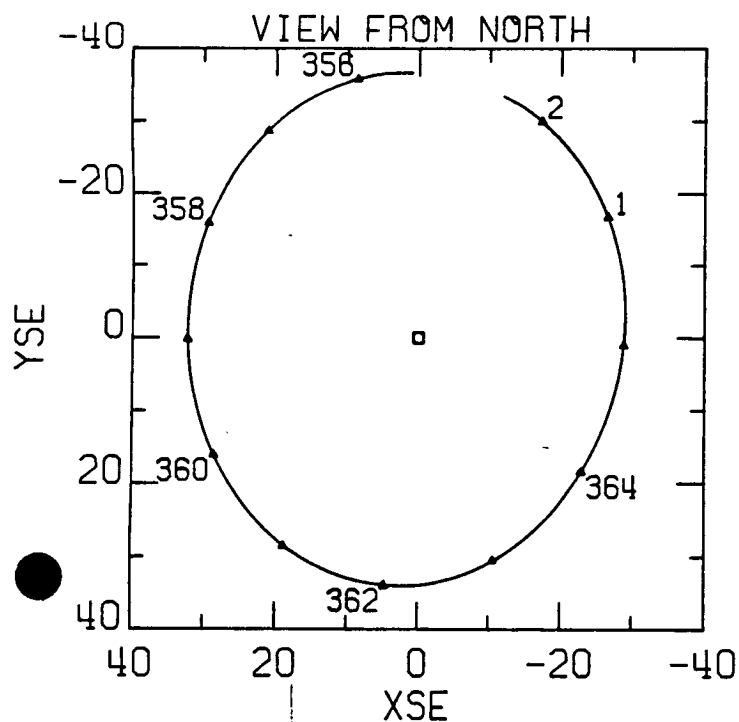
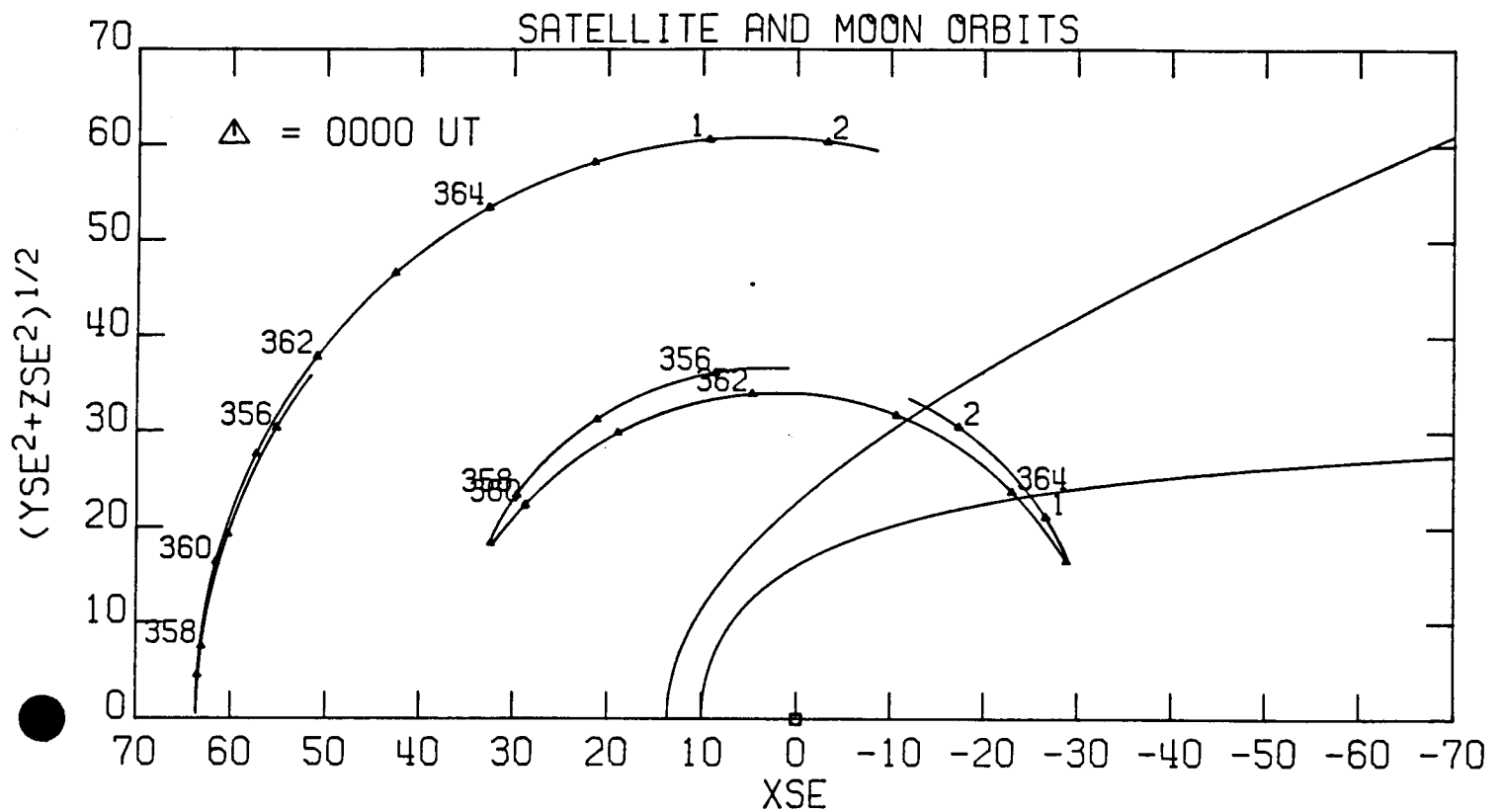


IMP 7 TRAJECTORY.

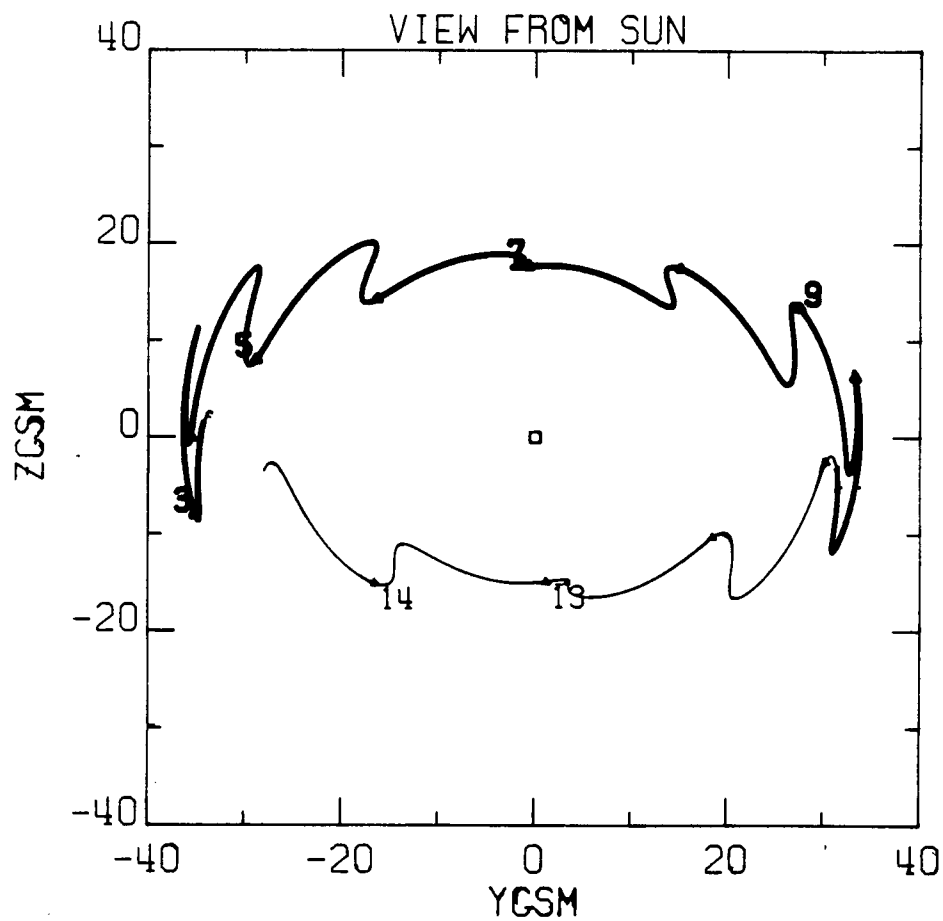
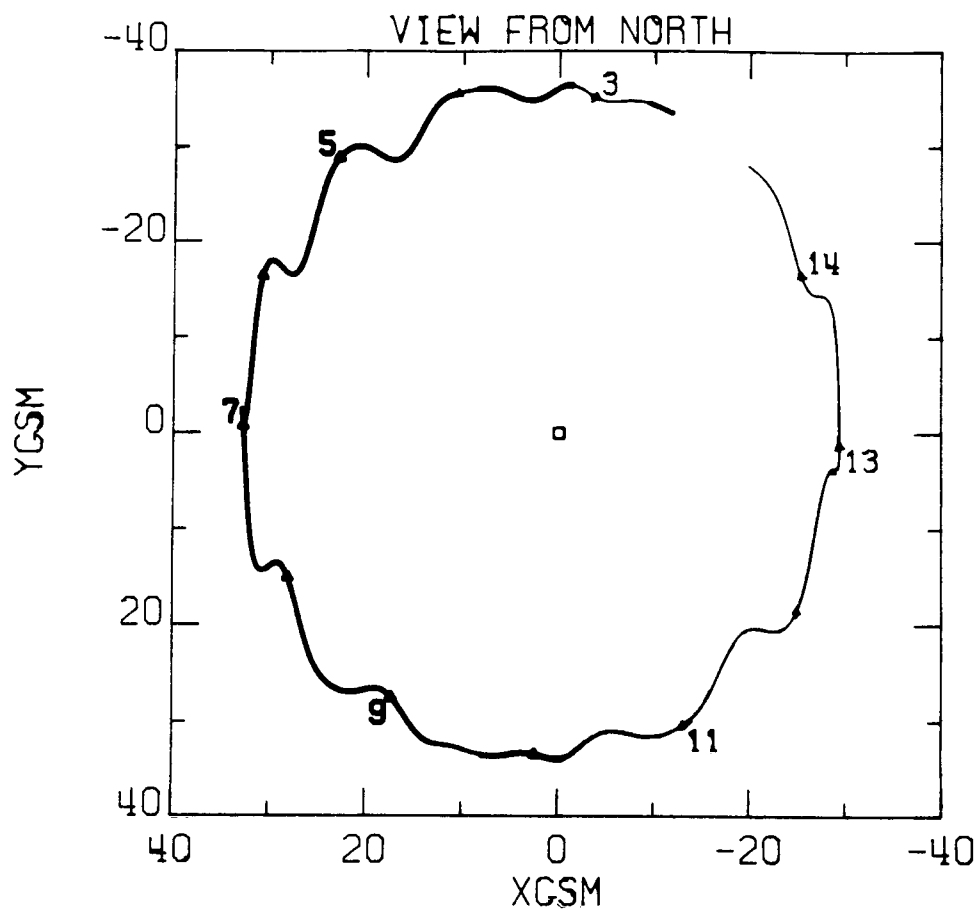
ASCENDING NODE 38

FROM DEC 21 TO JAN 2 1974

DAYS 355 THRU 2



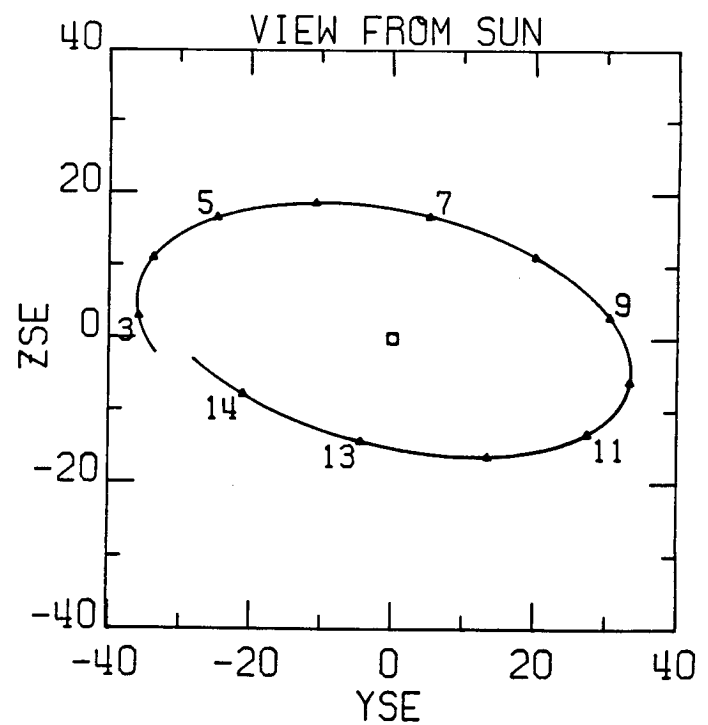
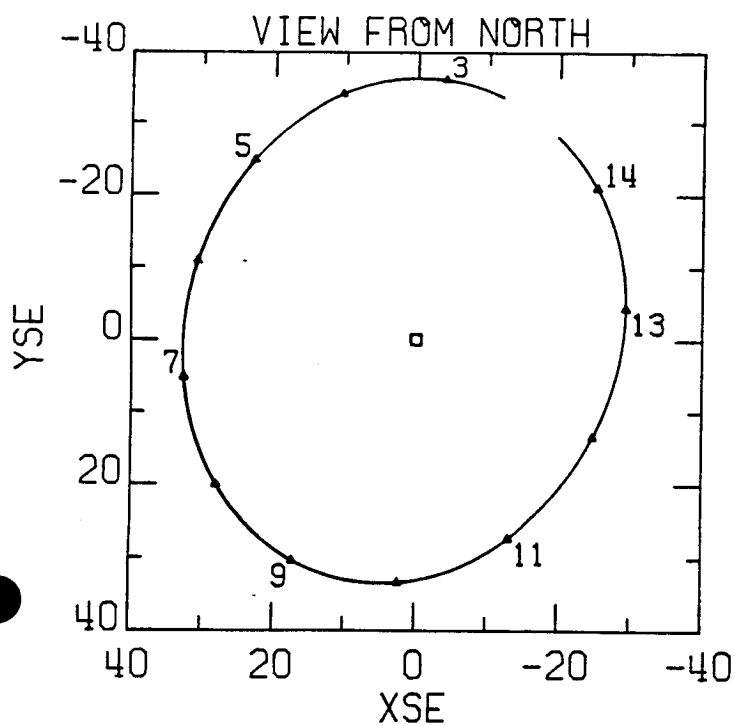
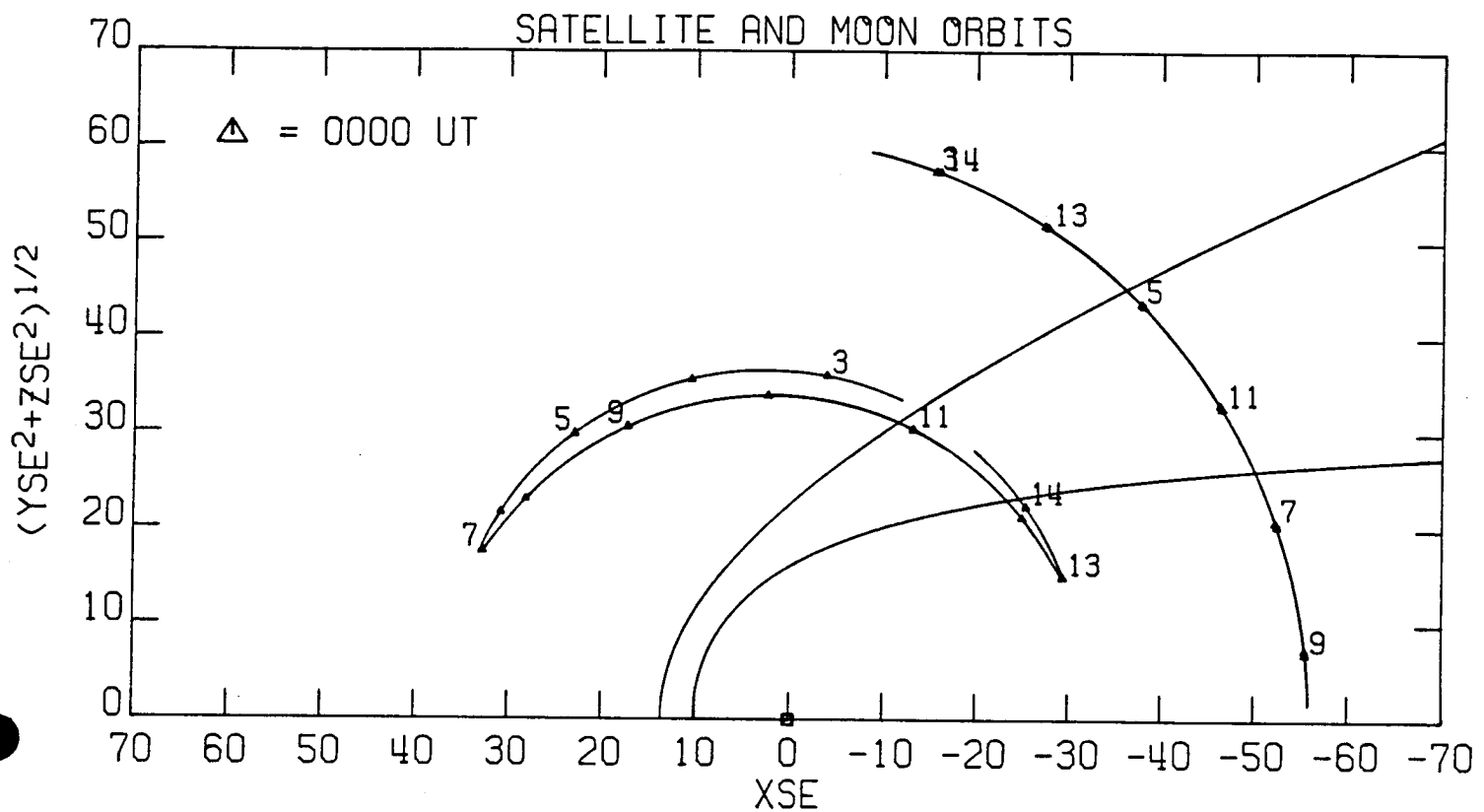
IMP 7 FROM JAN 2 TO JAN 14 1974



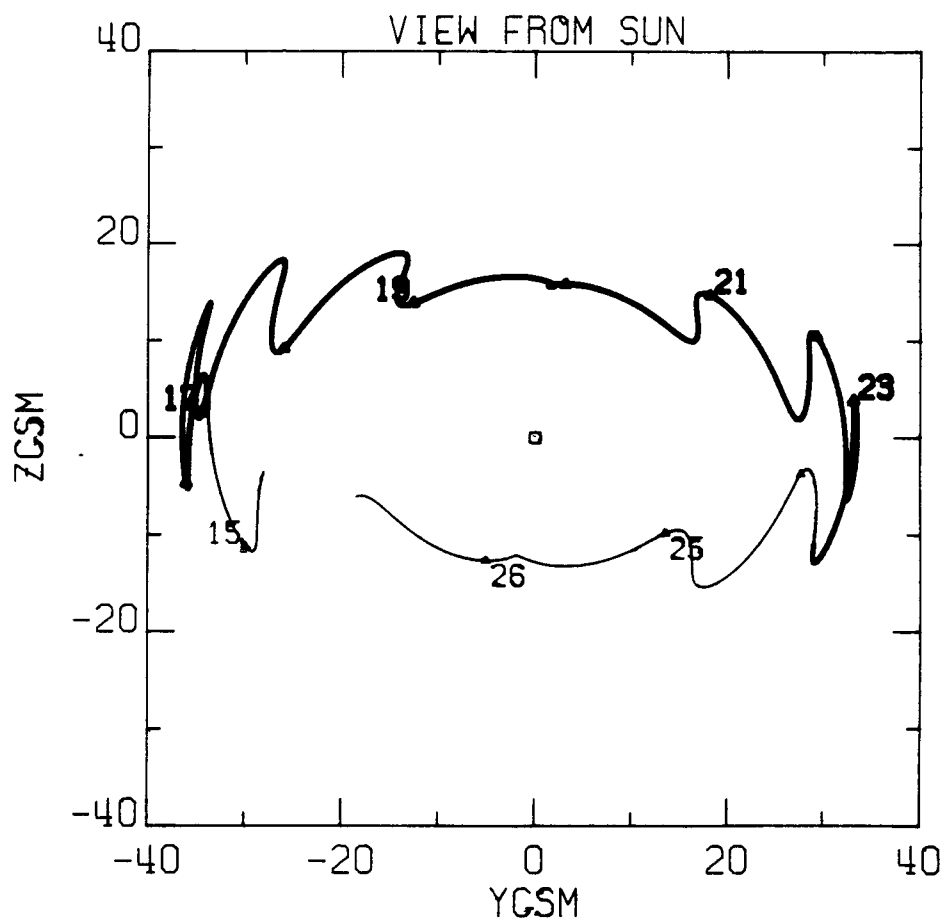
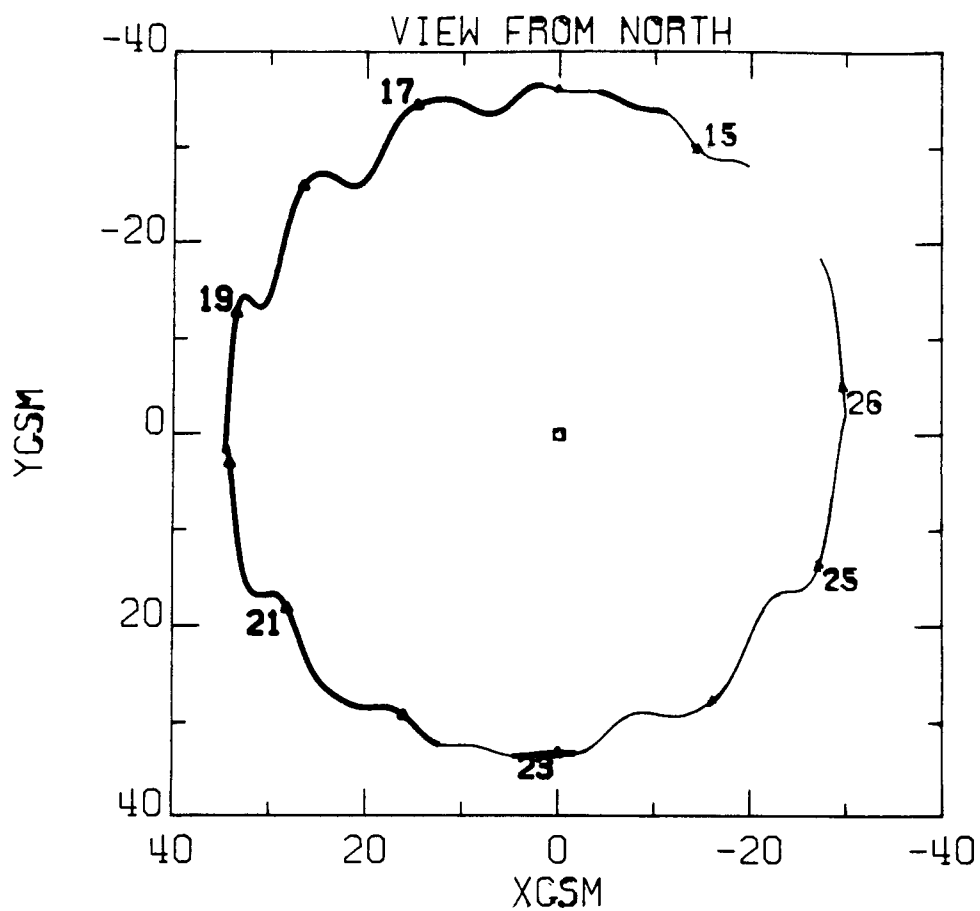
IMP 7 TRAJECTORY. ASCENDING NODE 39

FROM JAN 2 TO JAN 14 1974

DAYS 2 THRU 14



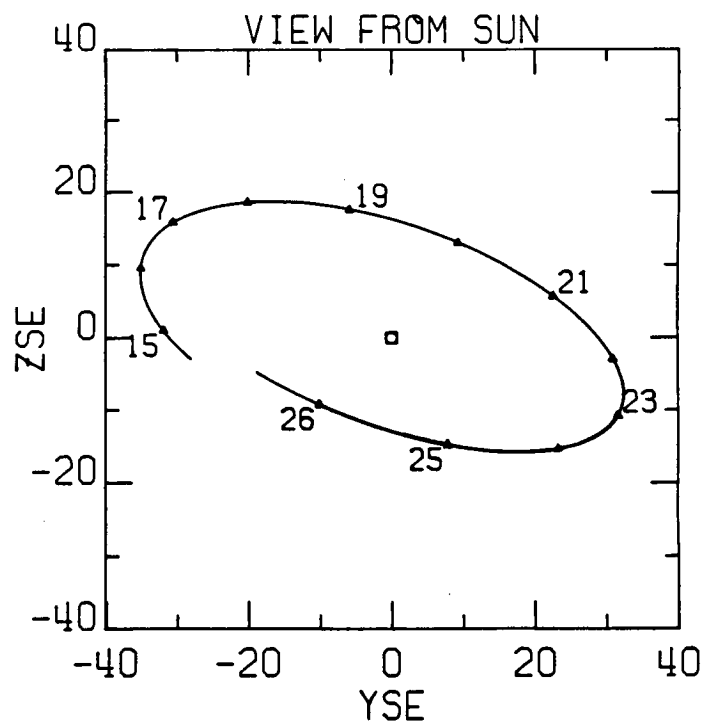
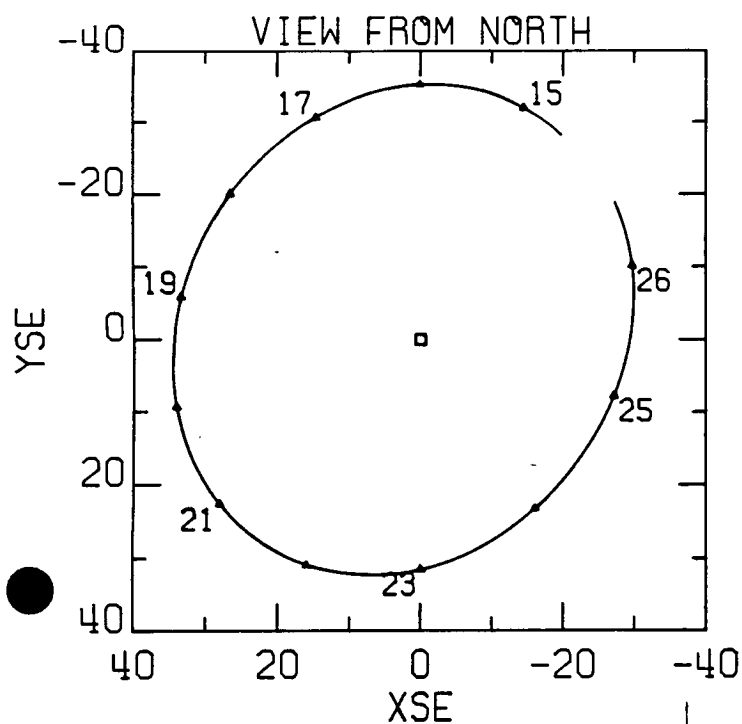
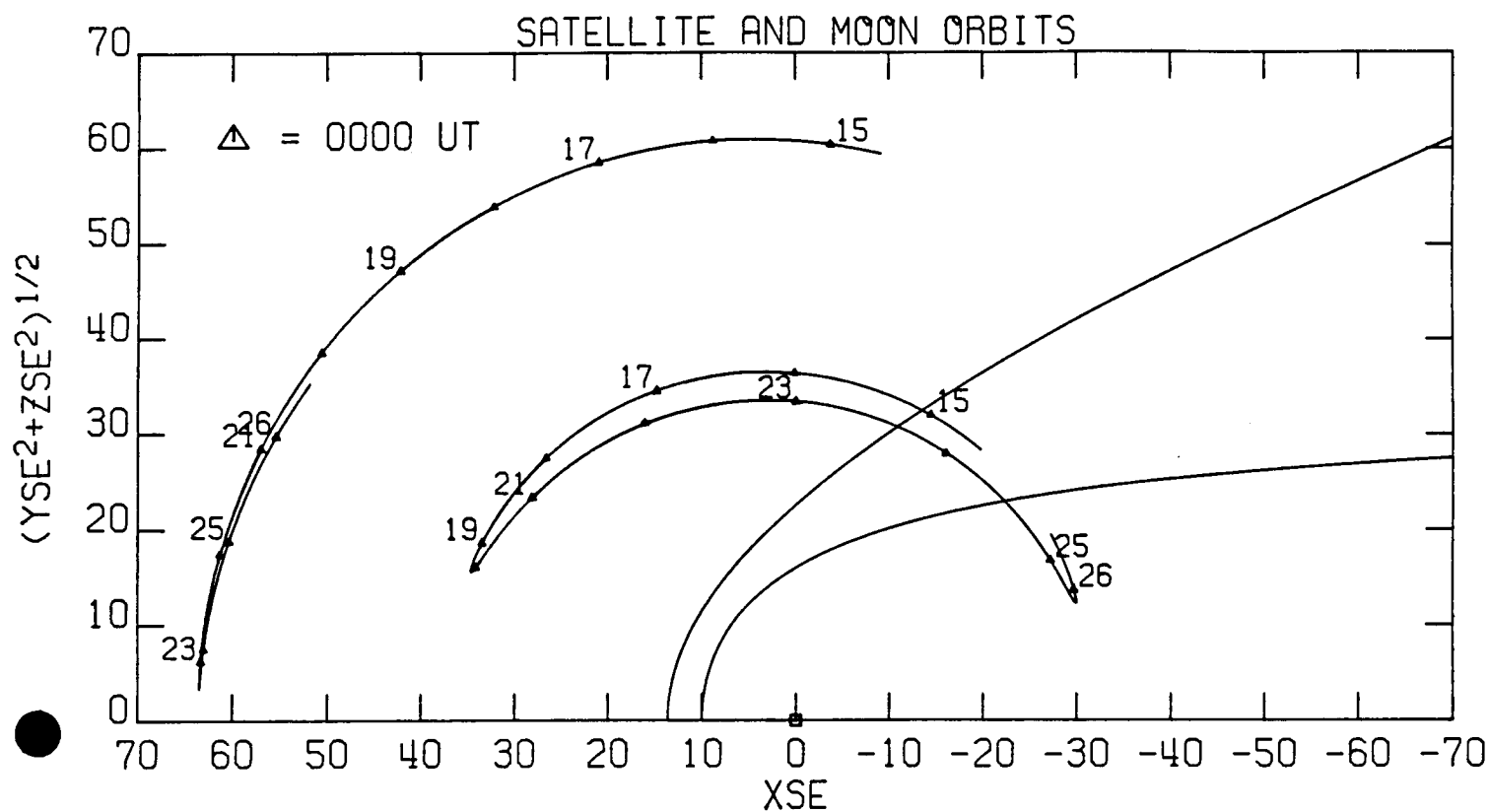
IMP 7 FROM JAN 14 TO JAN 26 1974



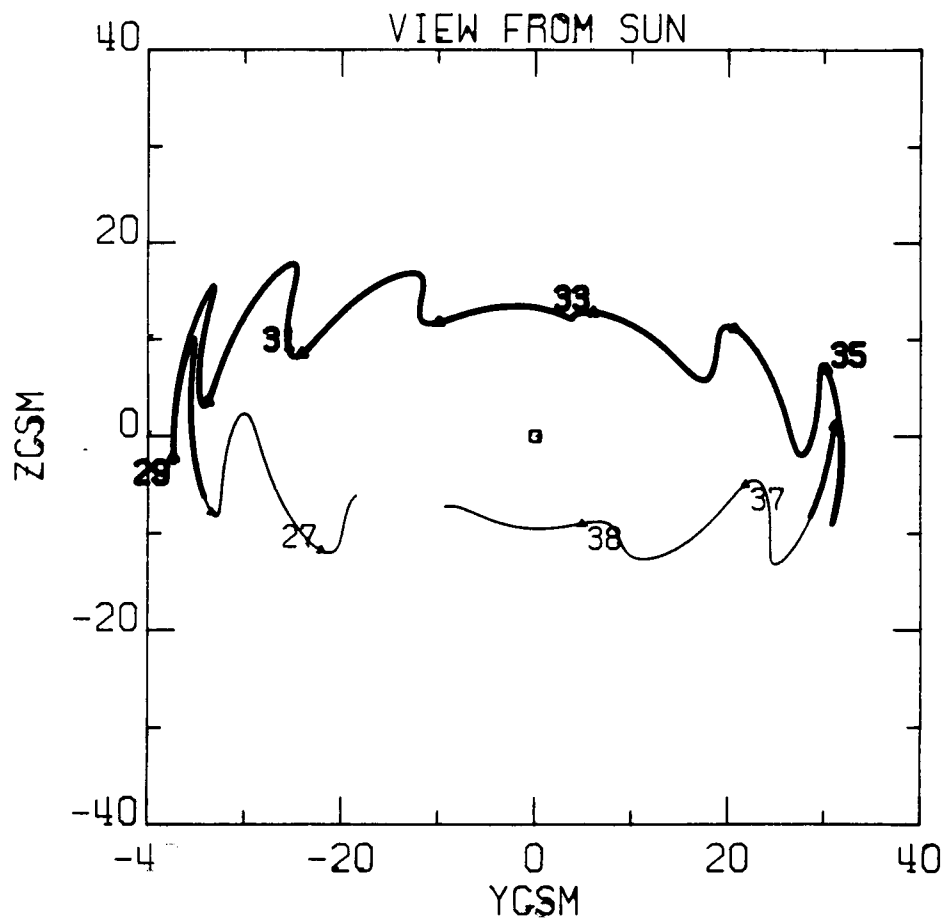
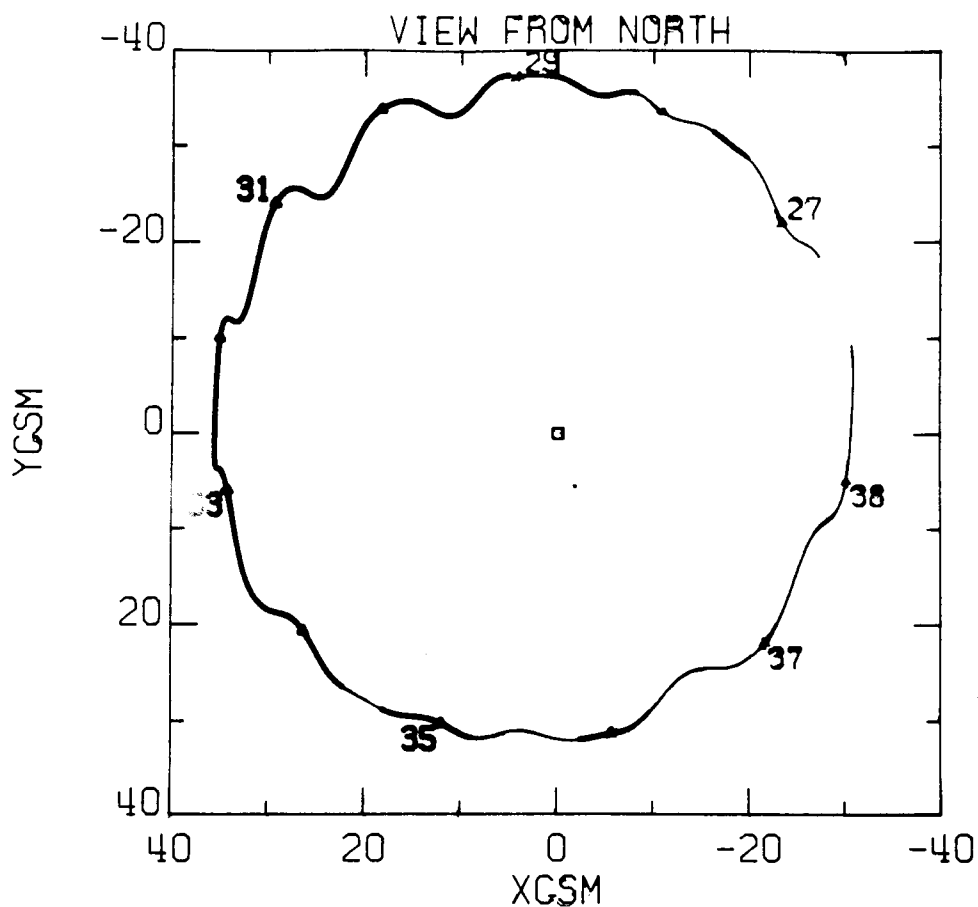
IMP 7 TRAJECTORY. ASCENDING NODE 40

FROM JAN 14 TO JAN 26 1974

DAYS 14 THRU 26



IMP 7 FROM JAN 26 TO FEB 7 1974

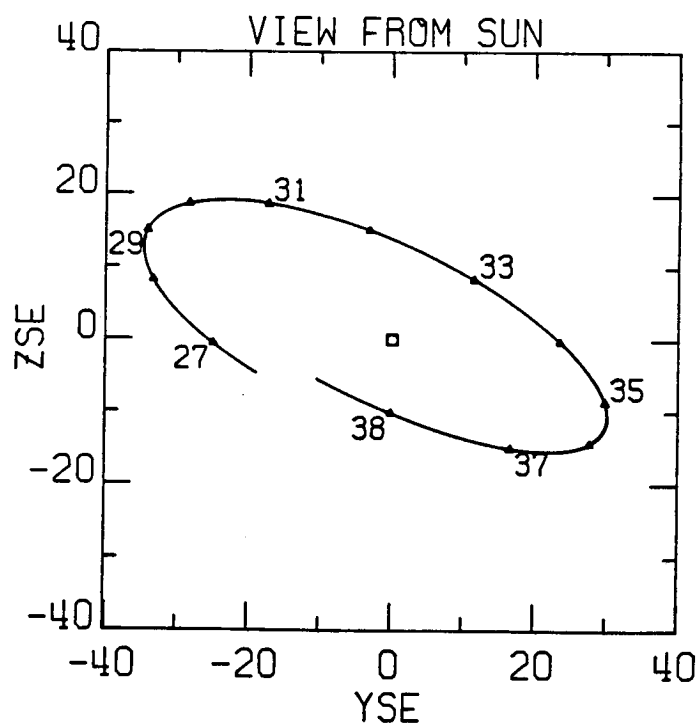
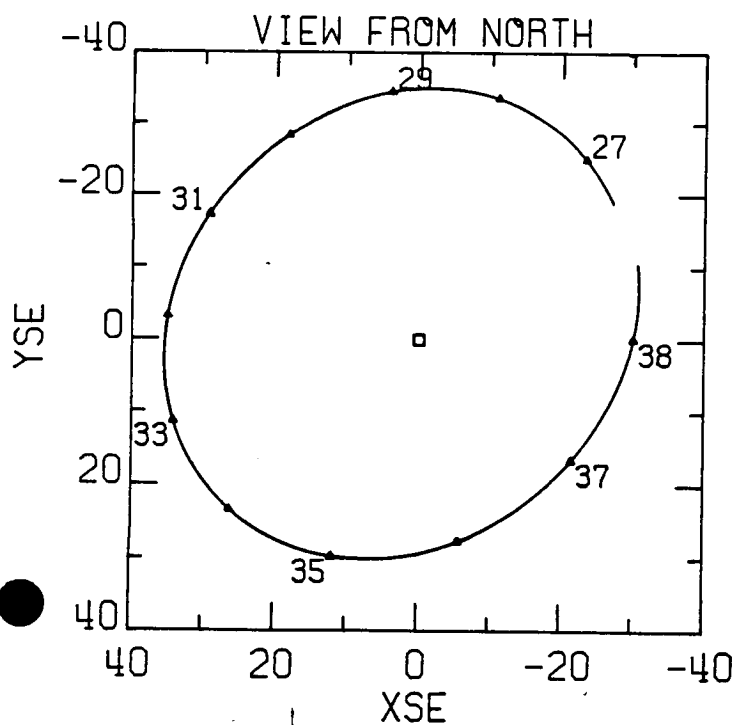
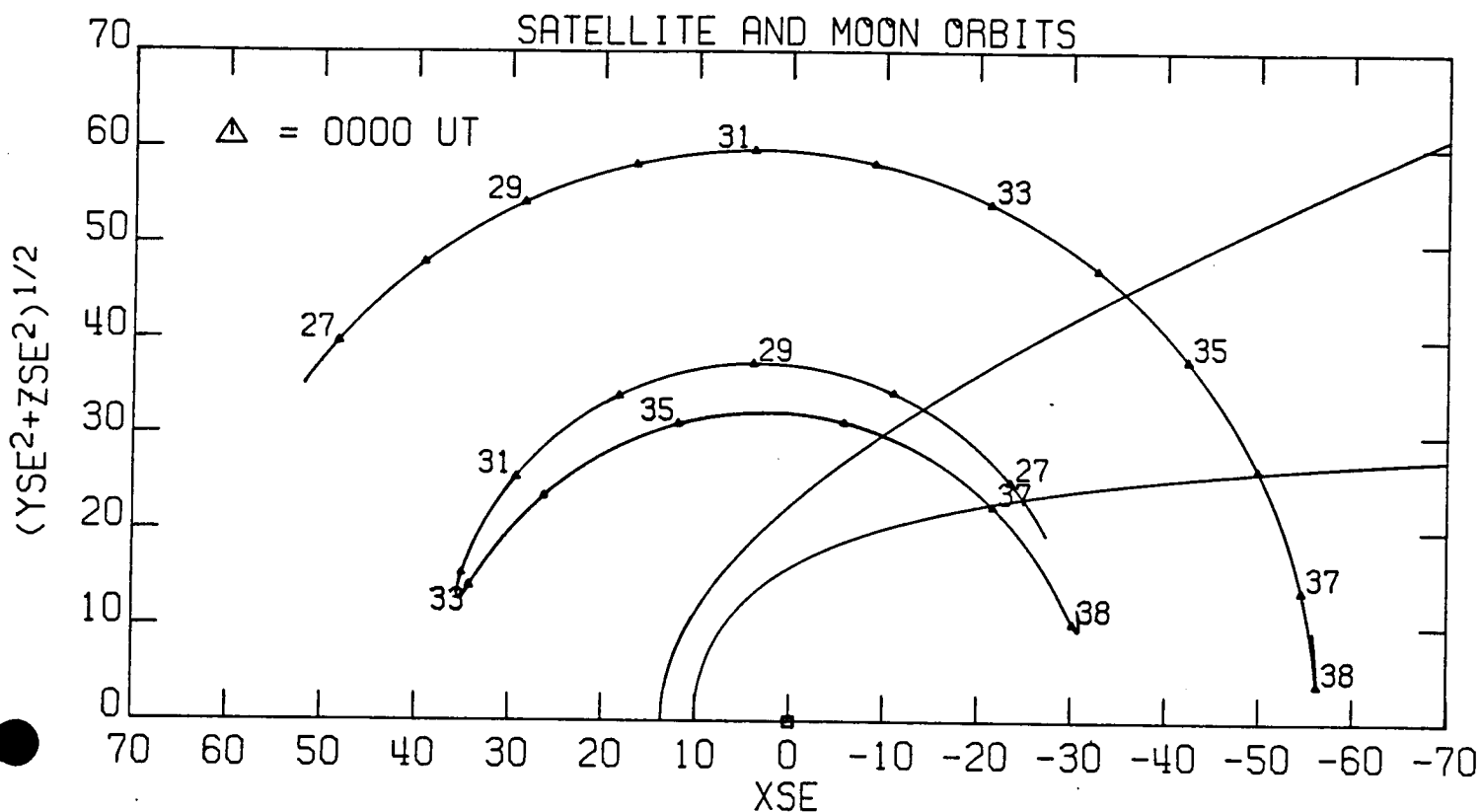


IMP 7 TRAJECTORY.

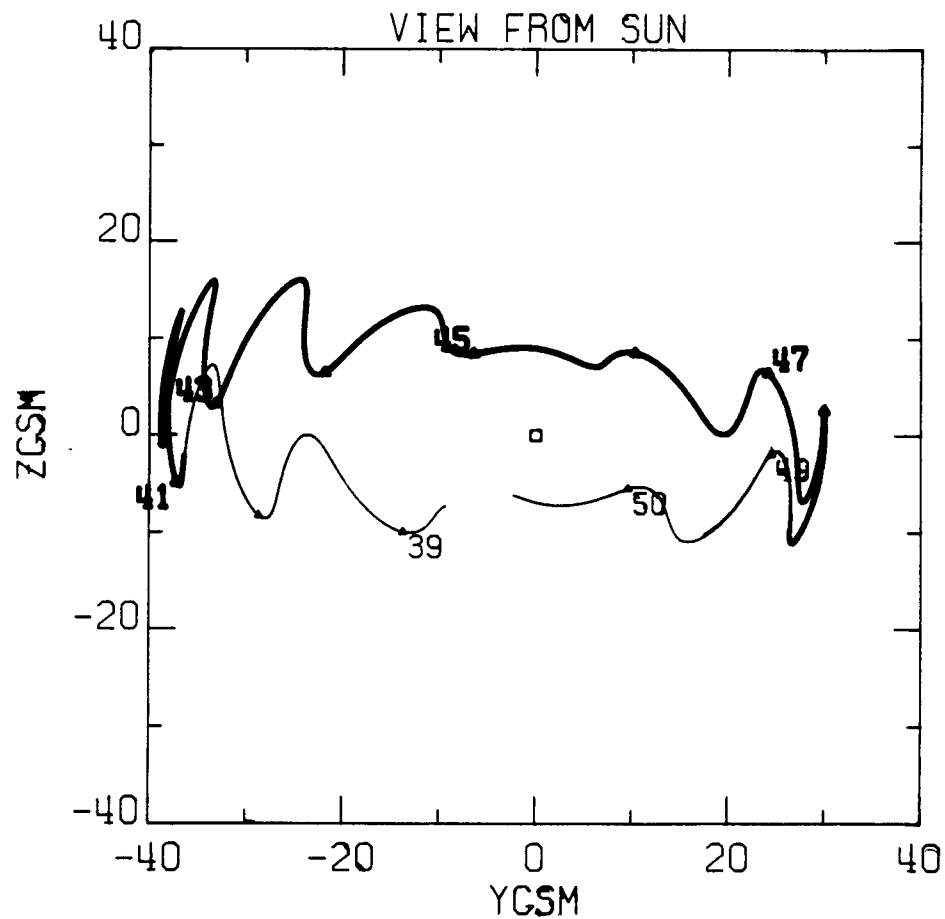
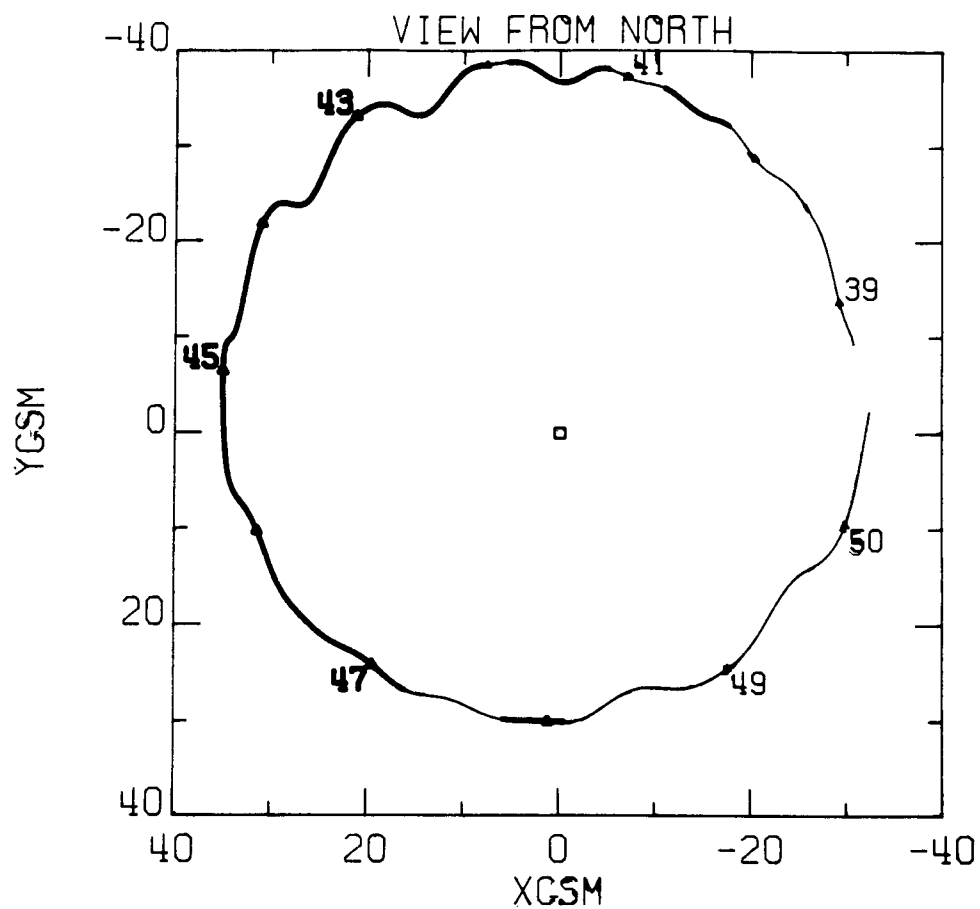
ASCENDING NODE 41

FROM JAN 26 TO FEB 7 1974

DAYS 26 THRU 38



IMP 7 FROM FEB 7 TO FEB 19 1974



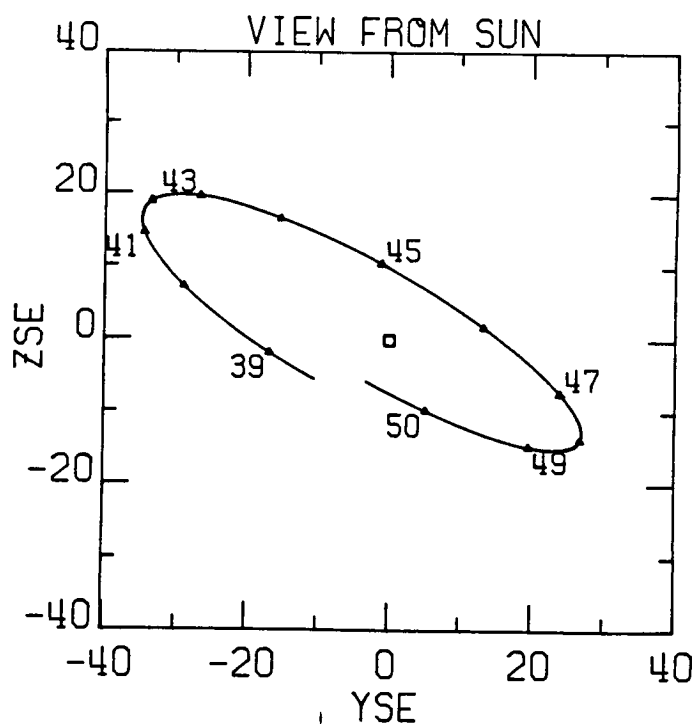
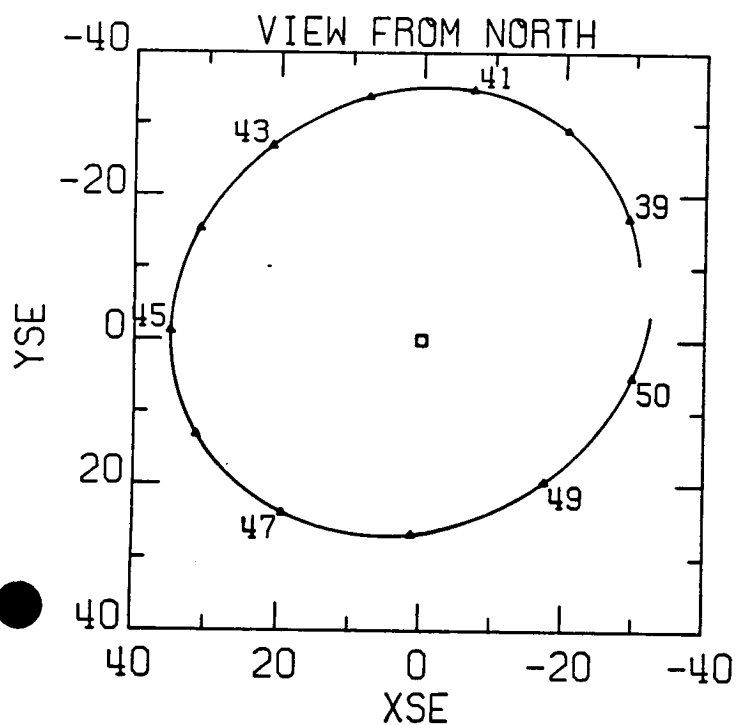
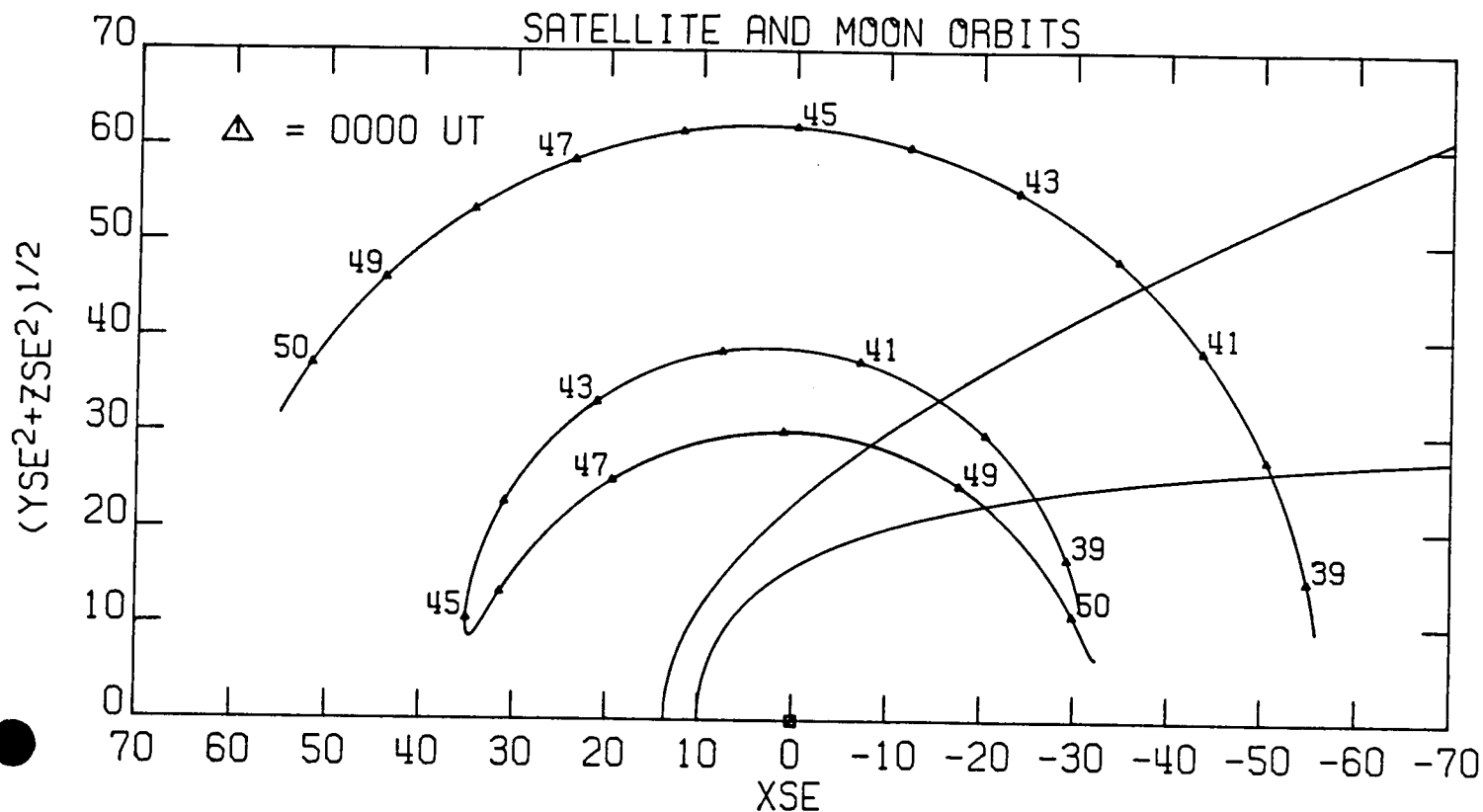
IMP 7 TRAJECTORY.

ASCENDING NODE 42

FROM FEB 7 TO FEB 19 1974

DAYS 38 THRU 50

SATELLITE AND MOON ORBITS



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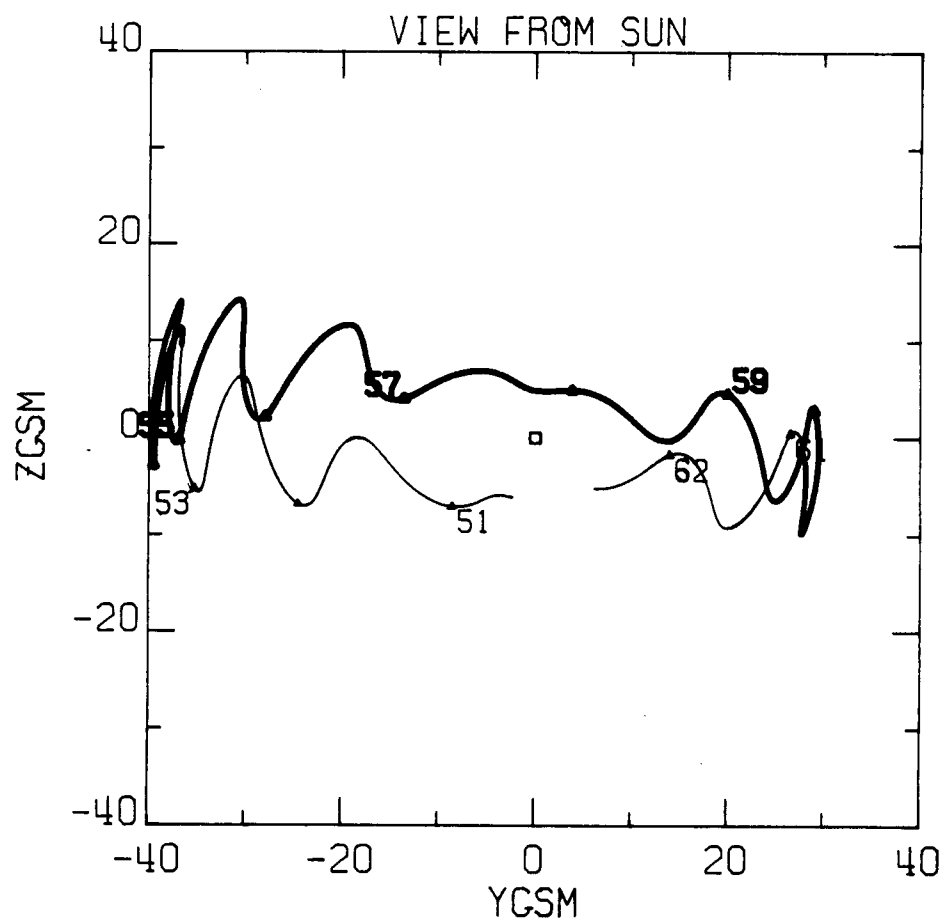
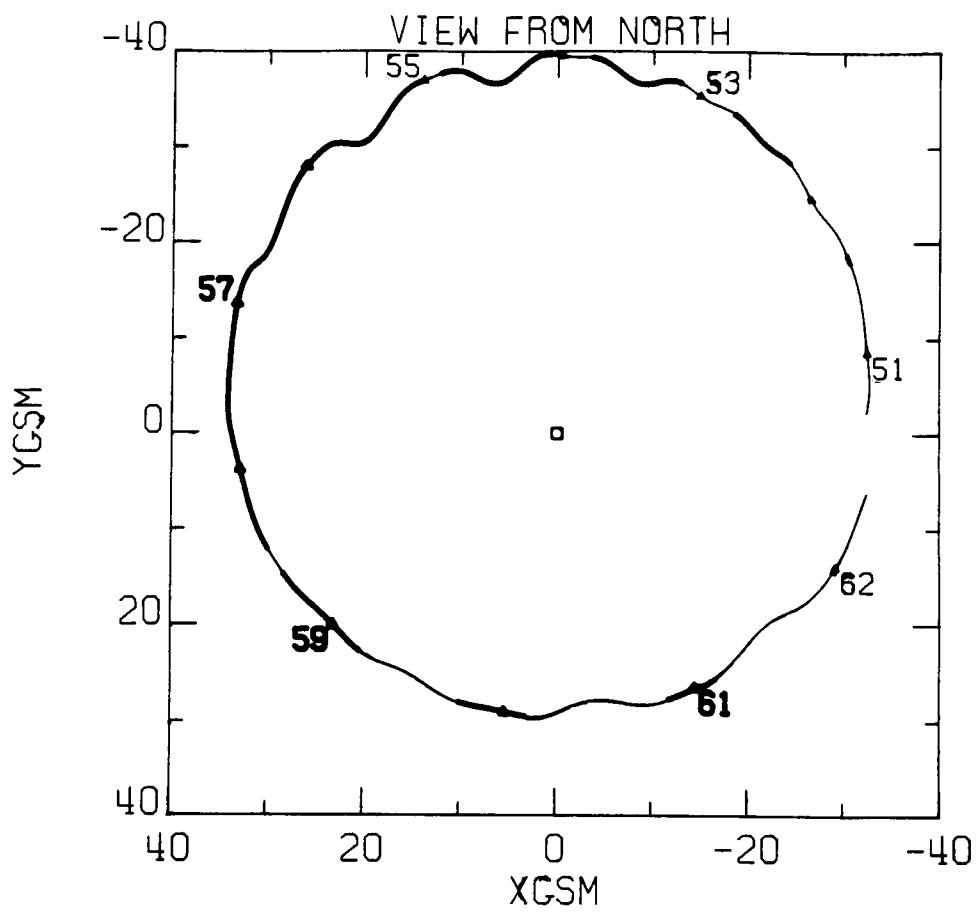
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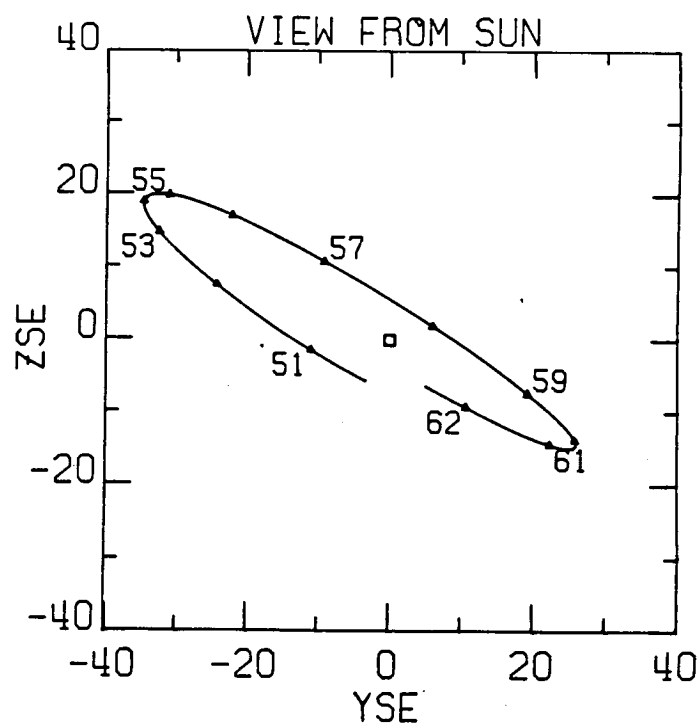
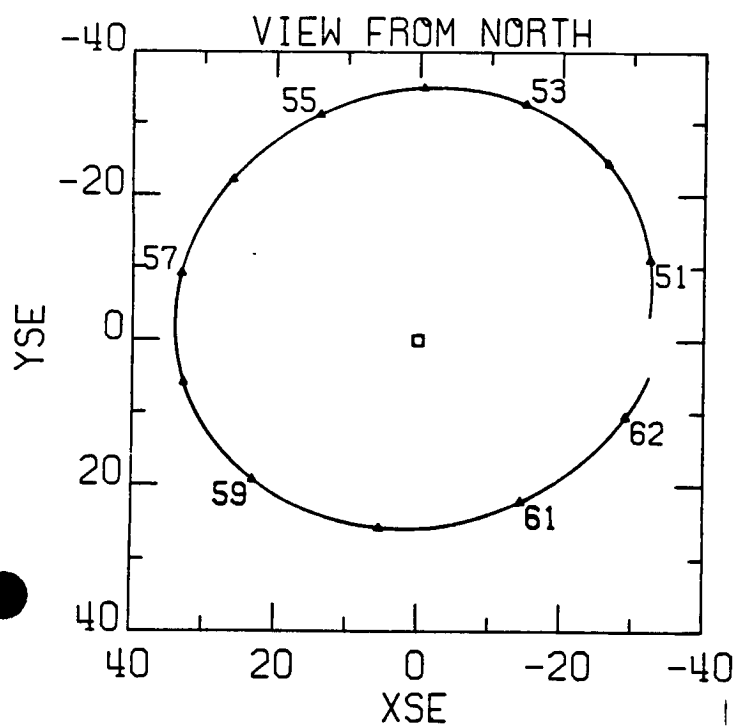
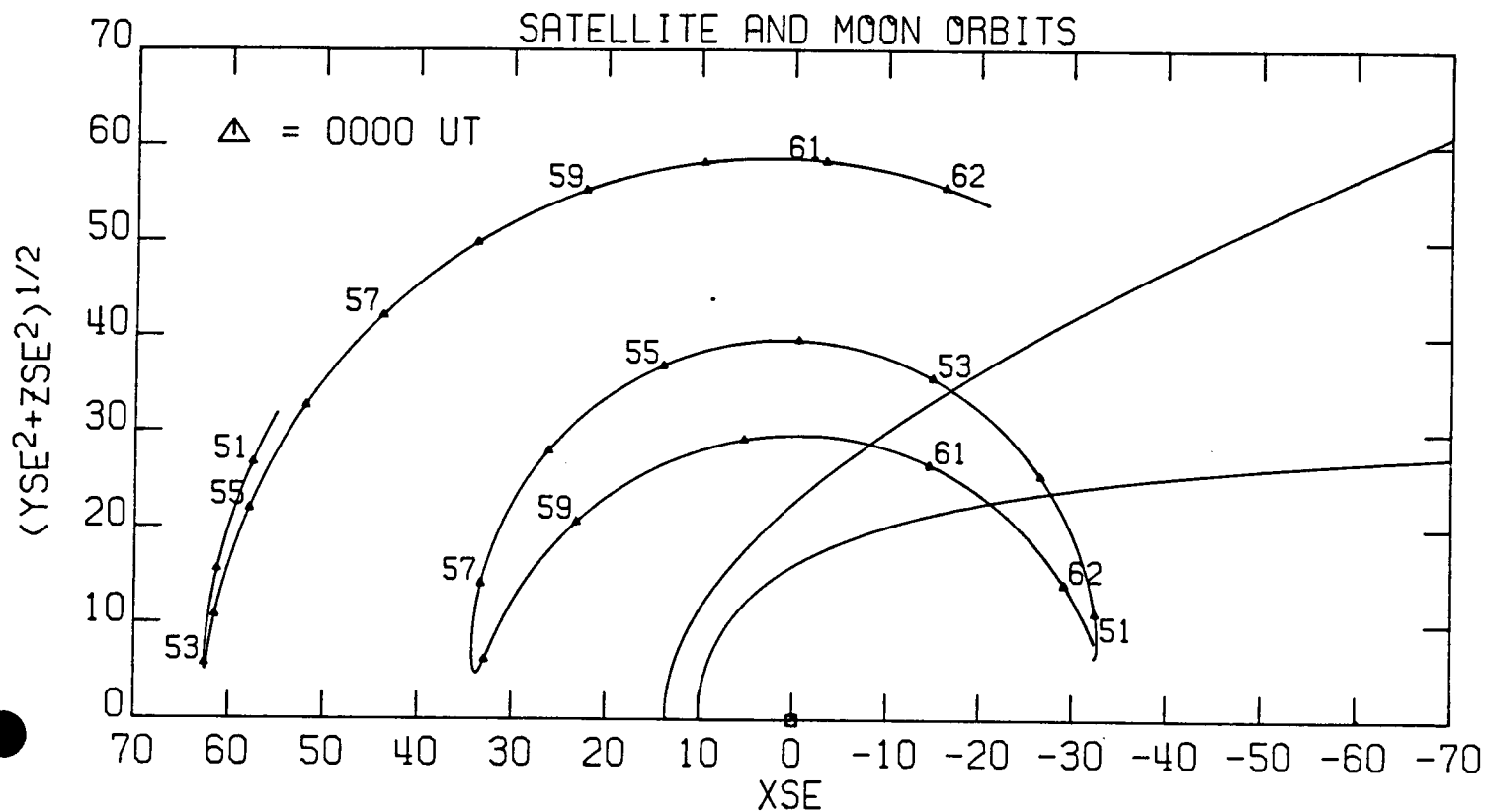
IMP 7 FROM FEB 19 TO MAR 3 1974



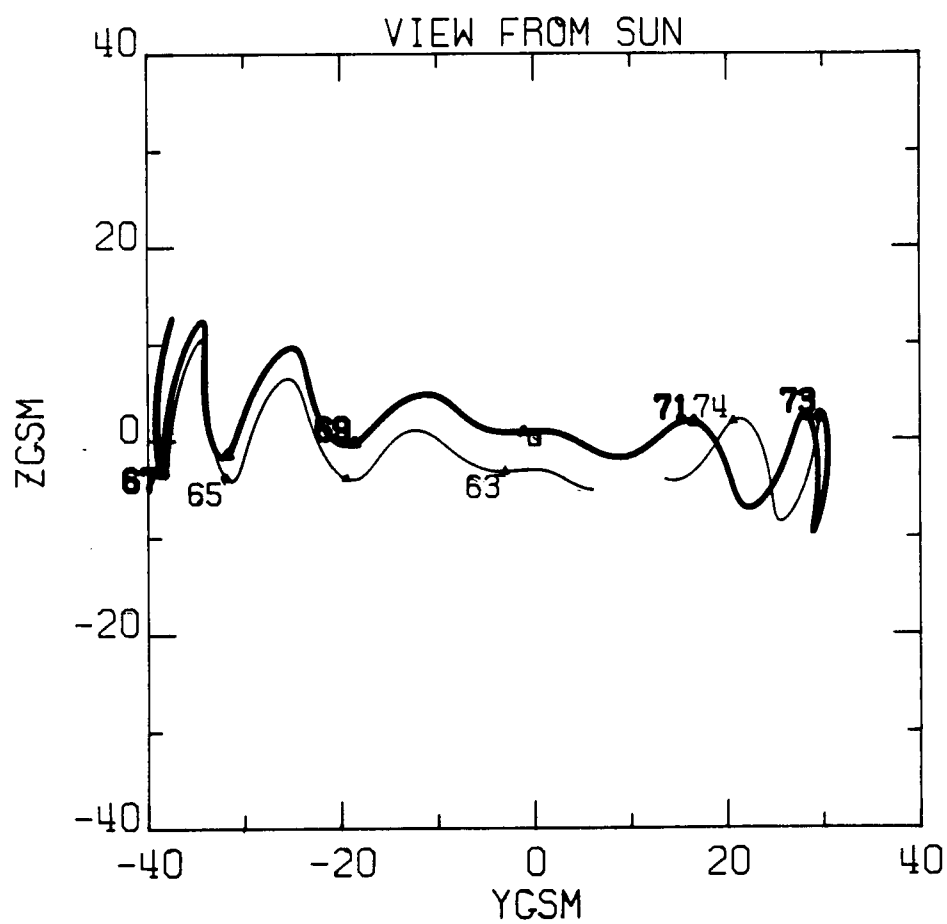
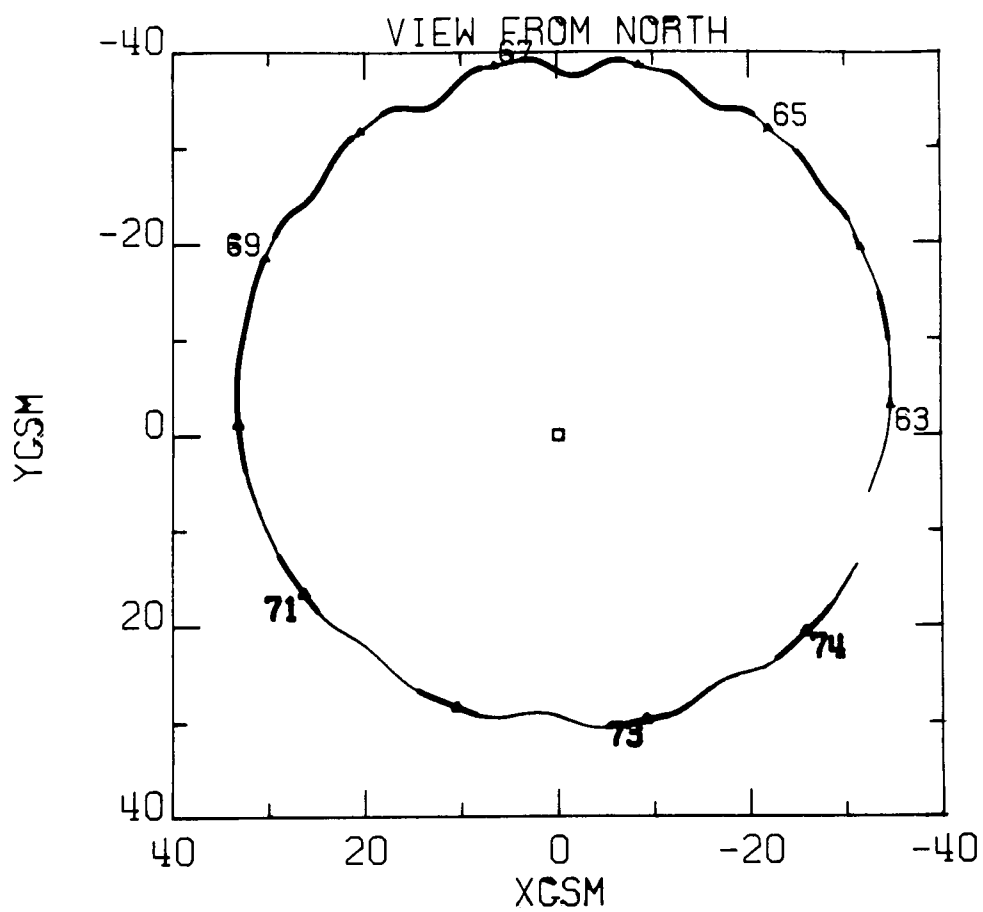
IMP 7 TRAJECTORY. ASCENDING NODE 43

FROM FEB 19 TO MAR 3 1974

DAYS 50 THRU 62



IMP 7 FROM MAR 3 TO MAR 15 1974

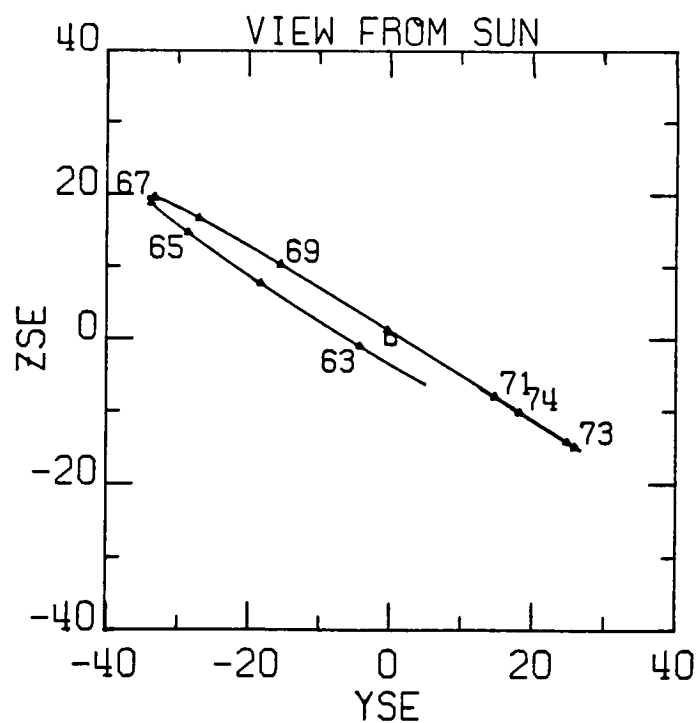
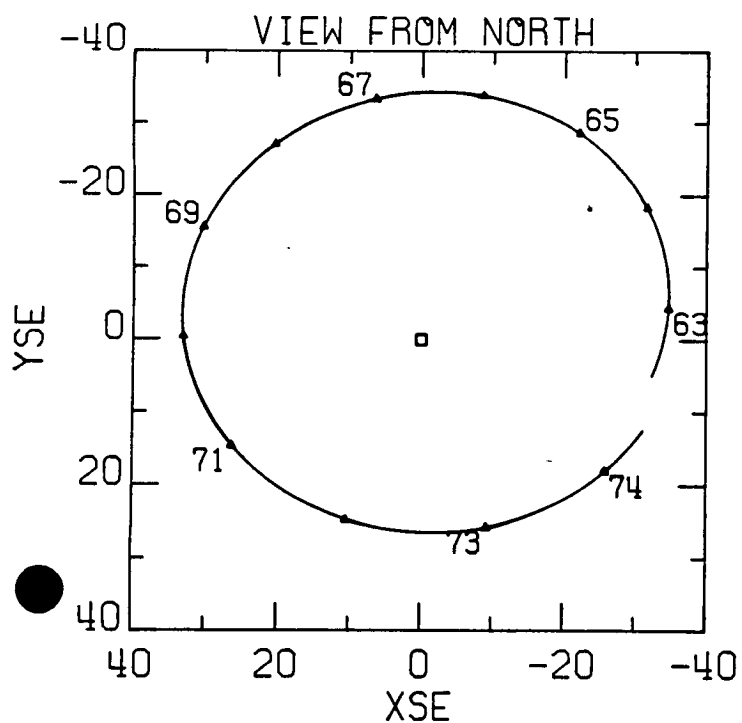
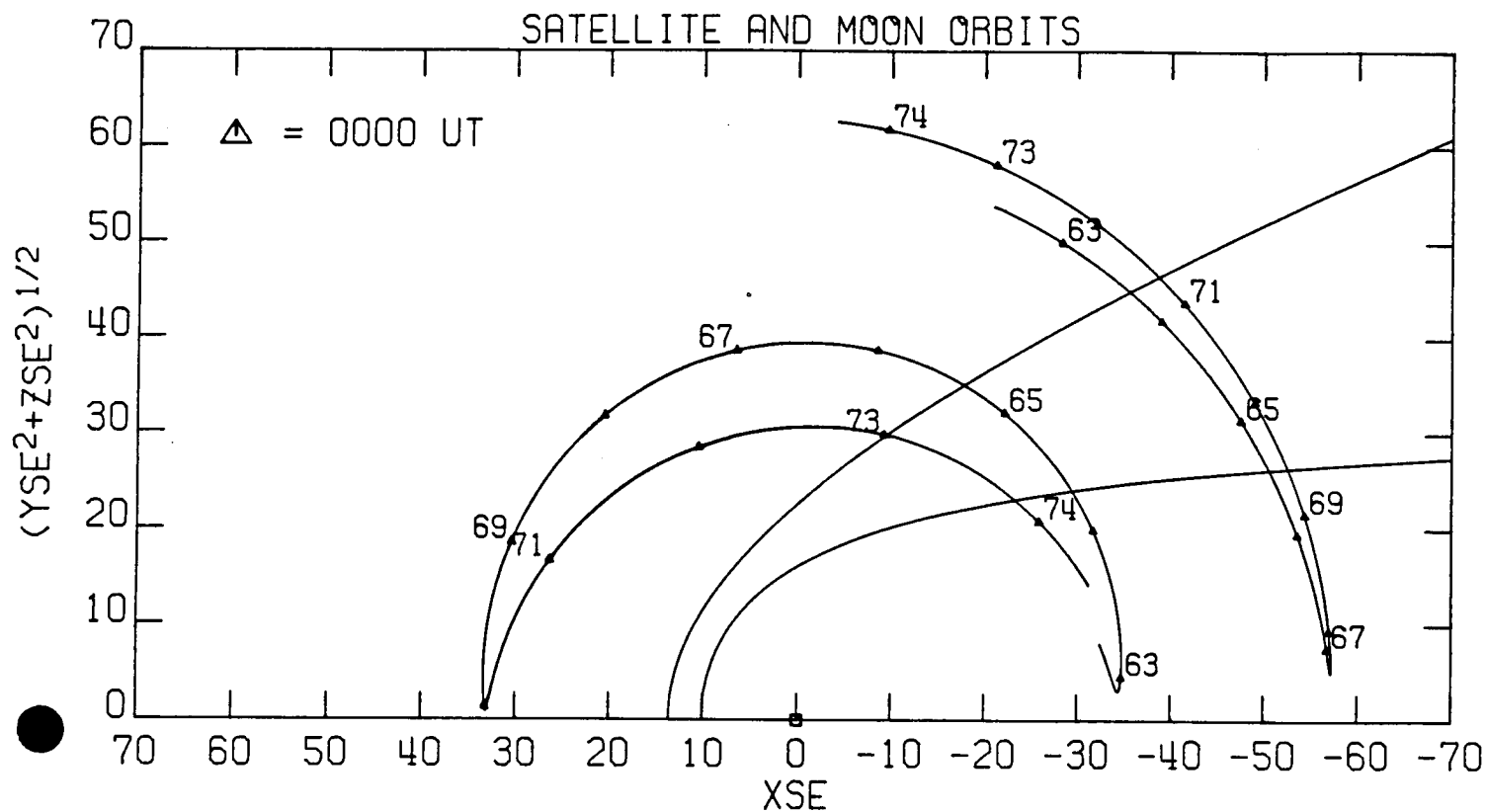


IMP 7 TRAJECTORY.

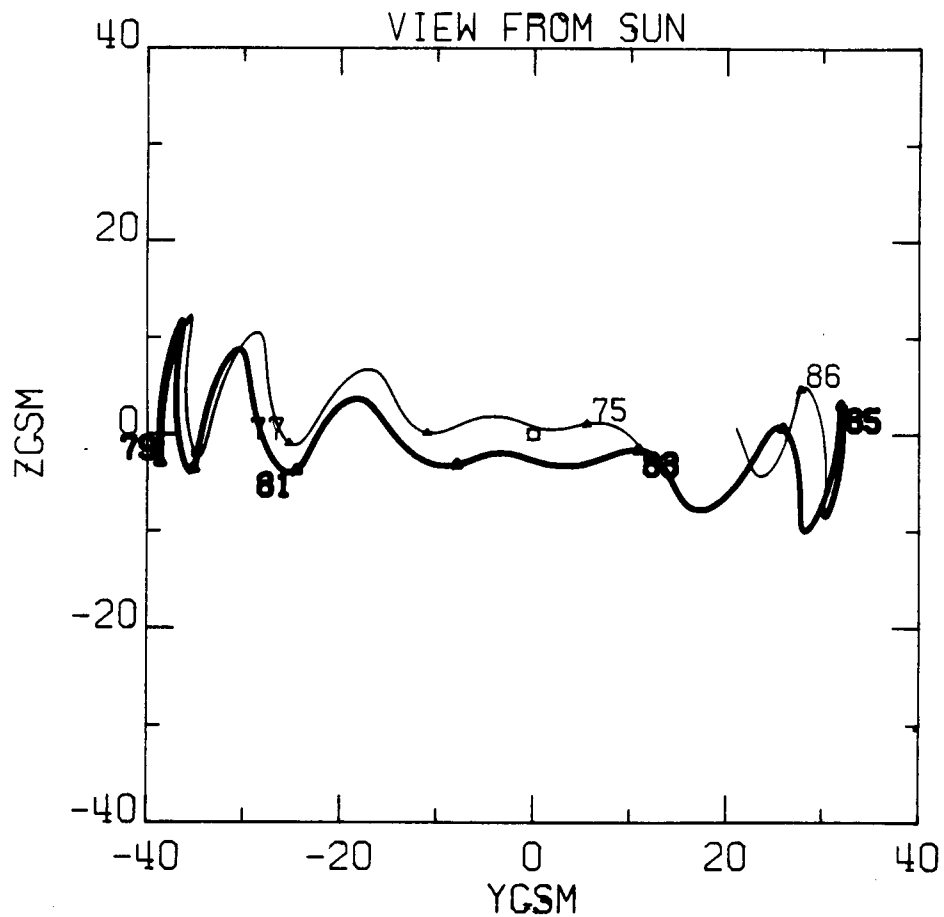
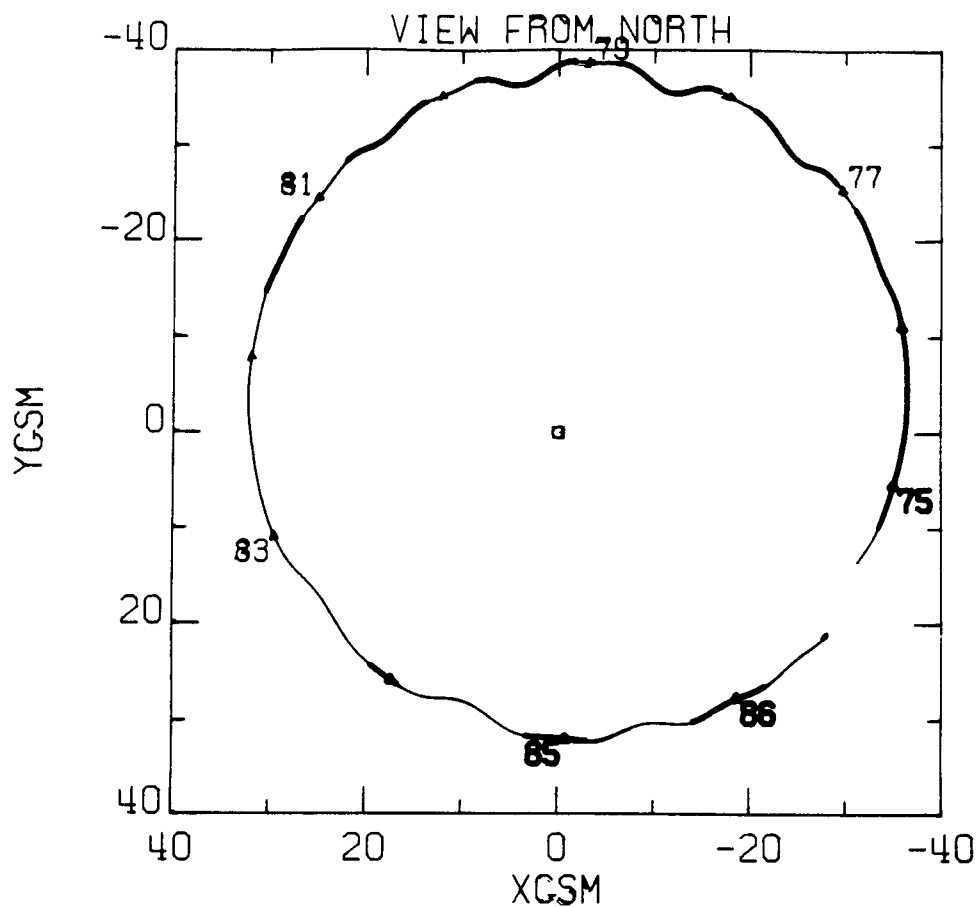
ASCENDING NODE 44

FROM MAR 3 TO MAR 15 1974

DAYS 62 THRU 74



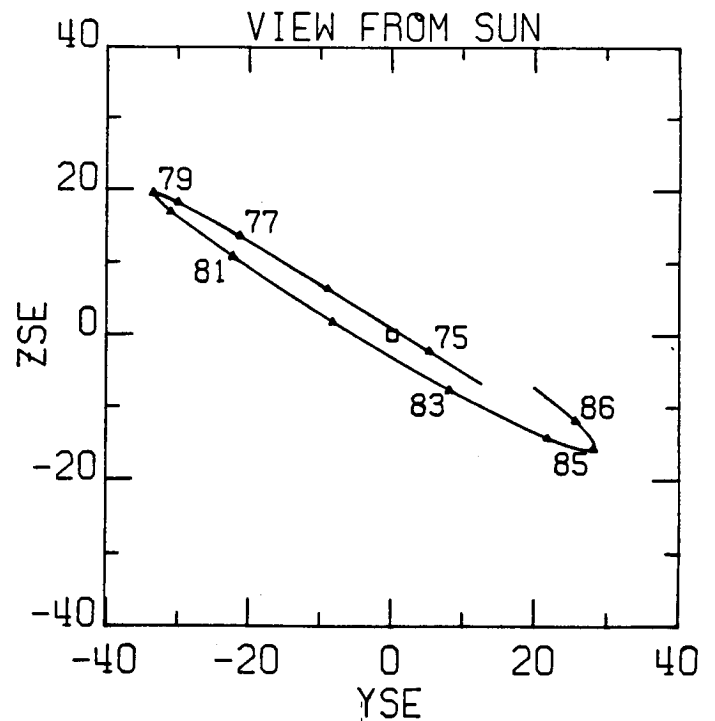
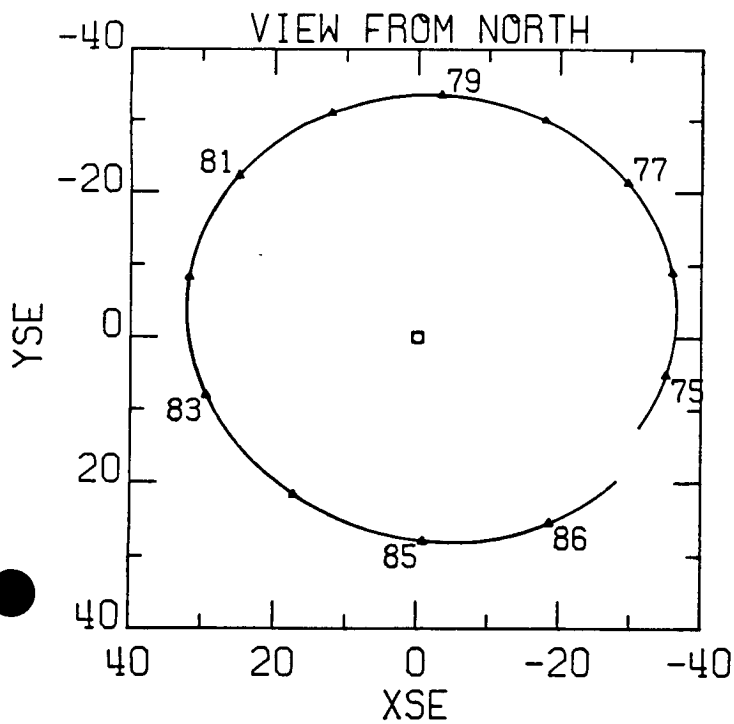
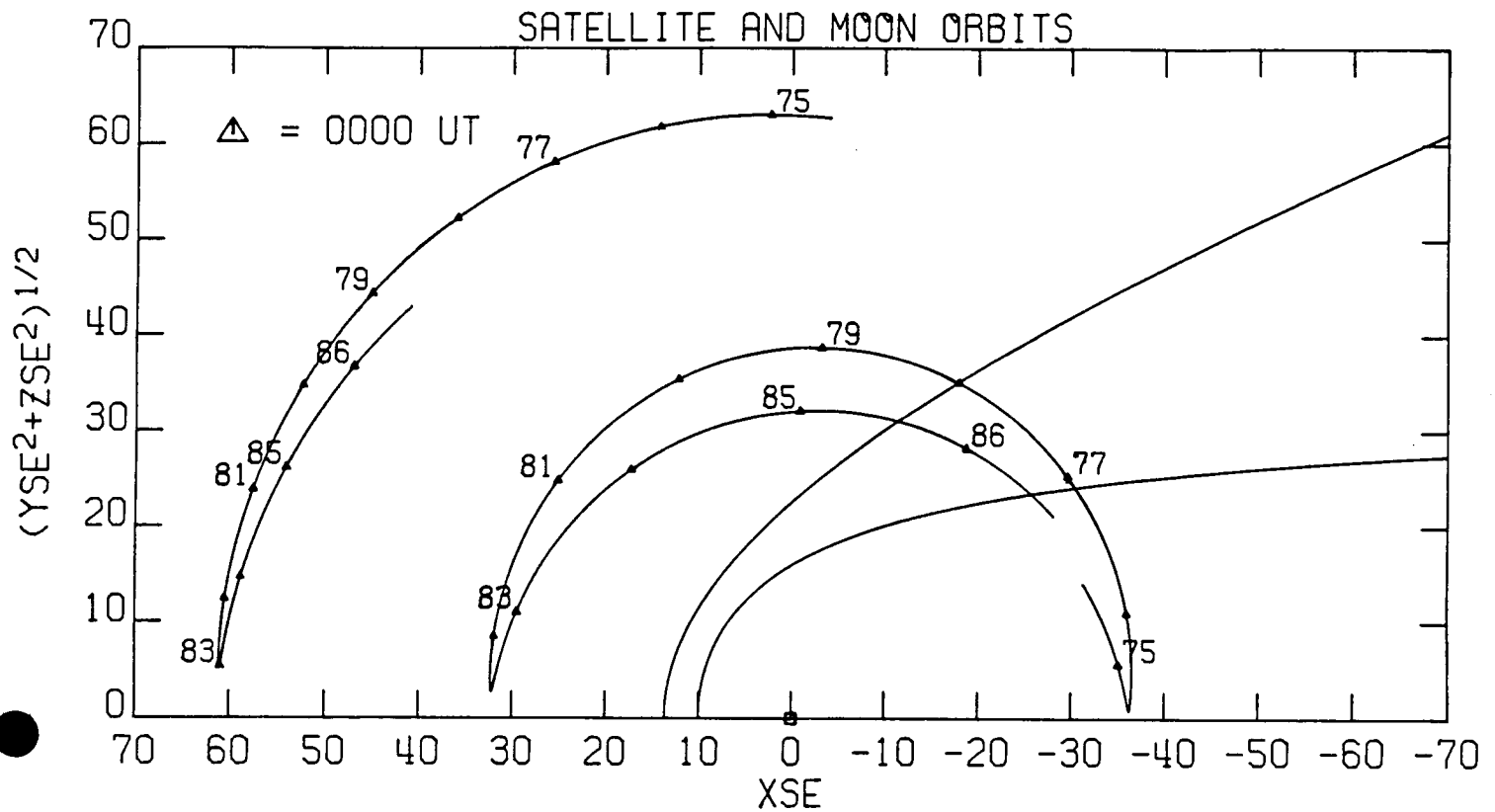
IMP 7 FROM MAR 15 TO MAR 27 1974



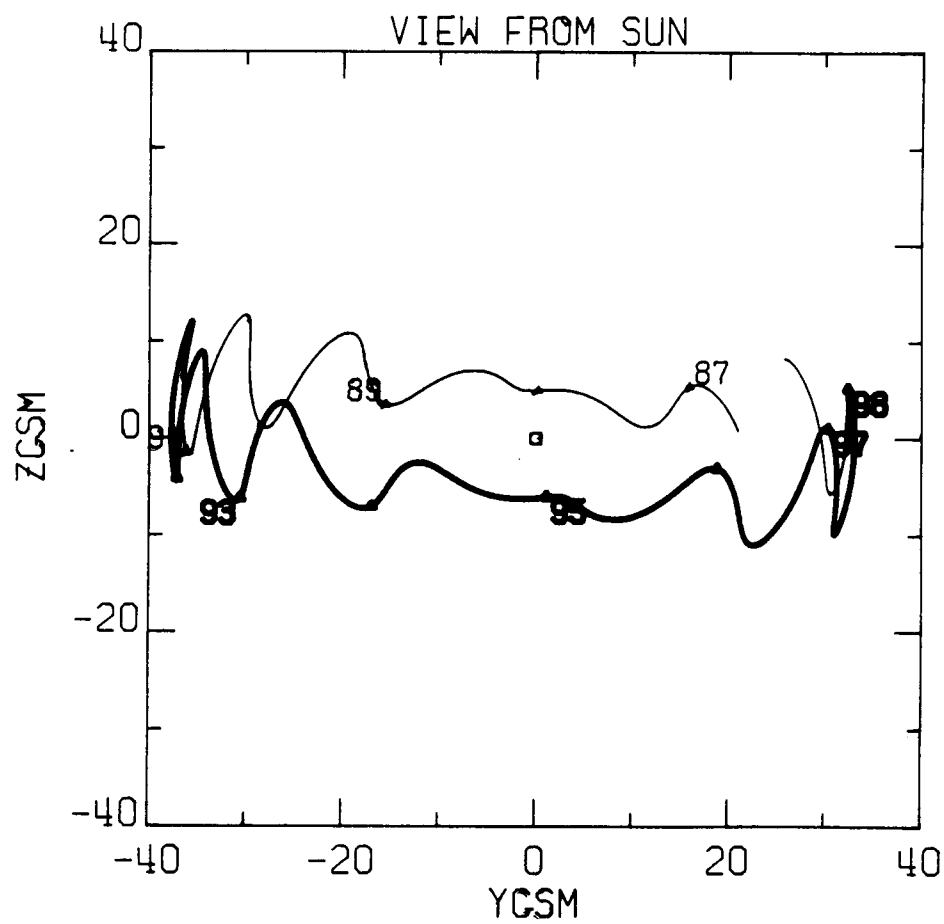
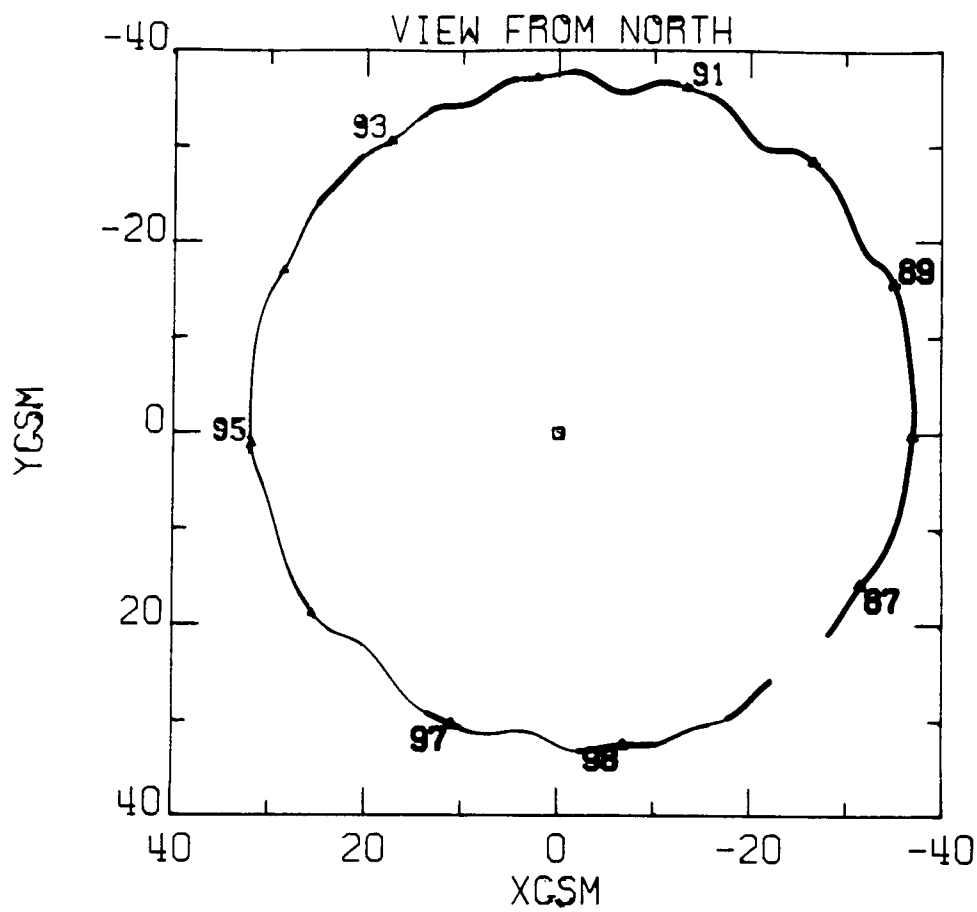
IMP 7 TRAJECTORY. ASCENDING NODE 45

FROM MAR 15 TO MAR 27 1974

DAYS 74 THRU 86



IMP 7 FROM MAR 27 TO APR 8 1974

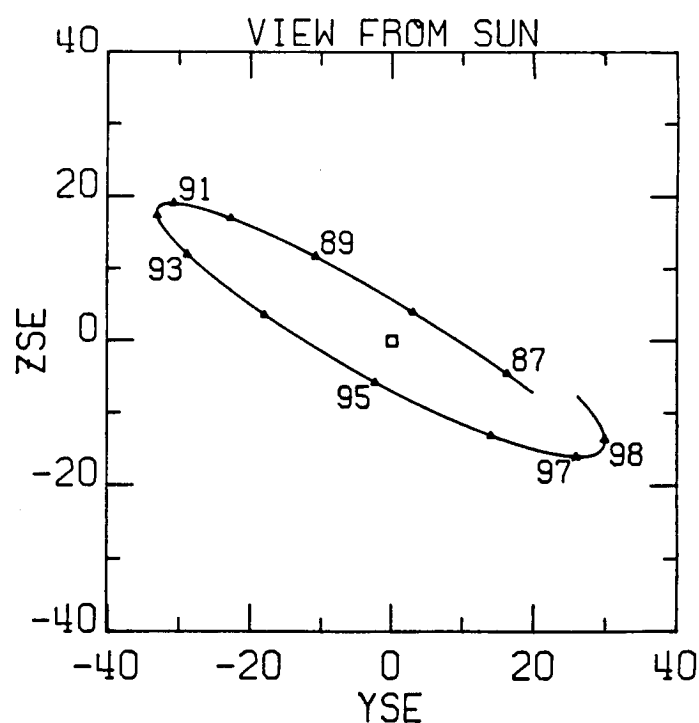
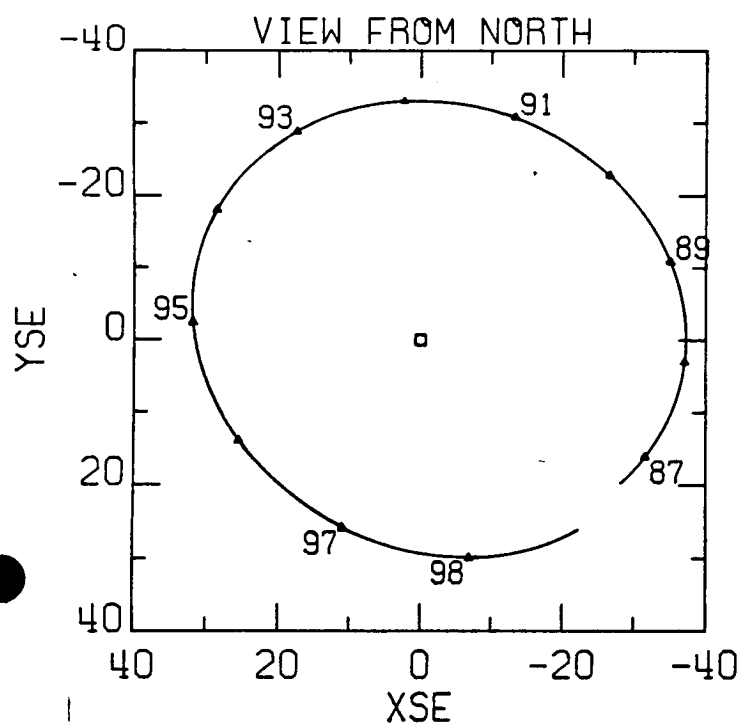
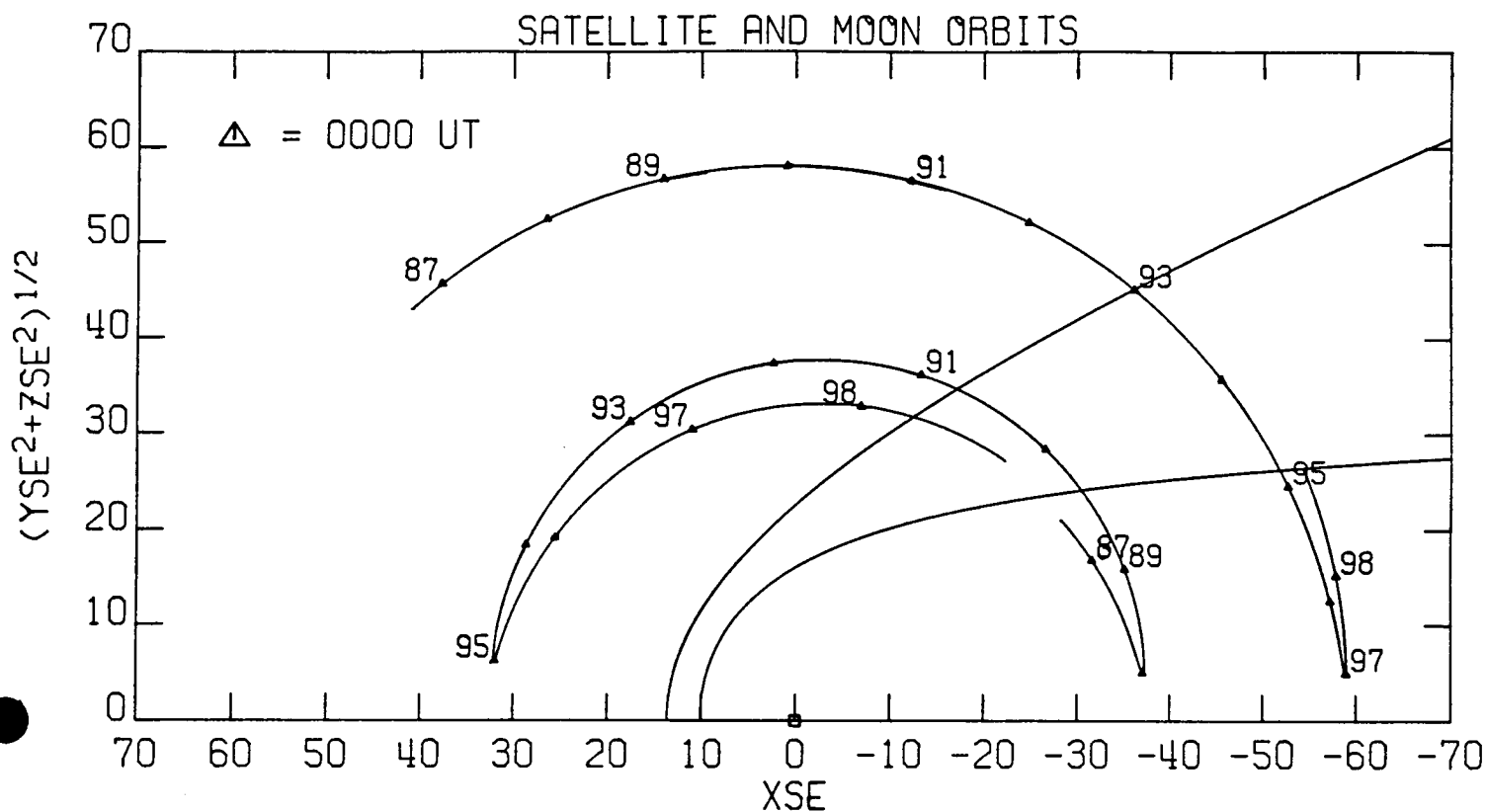


IMP 7 TRAJECTORY.

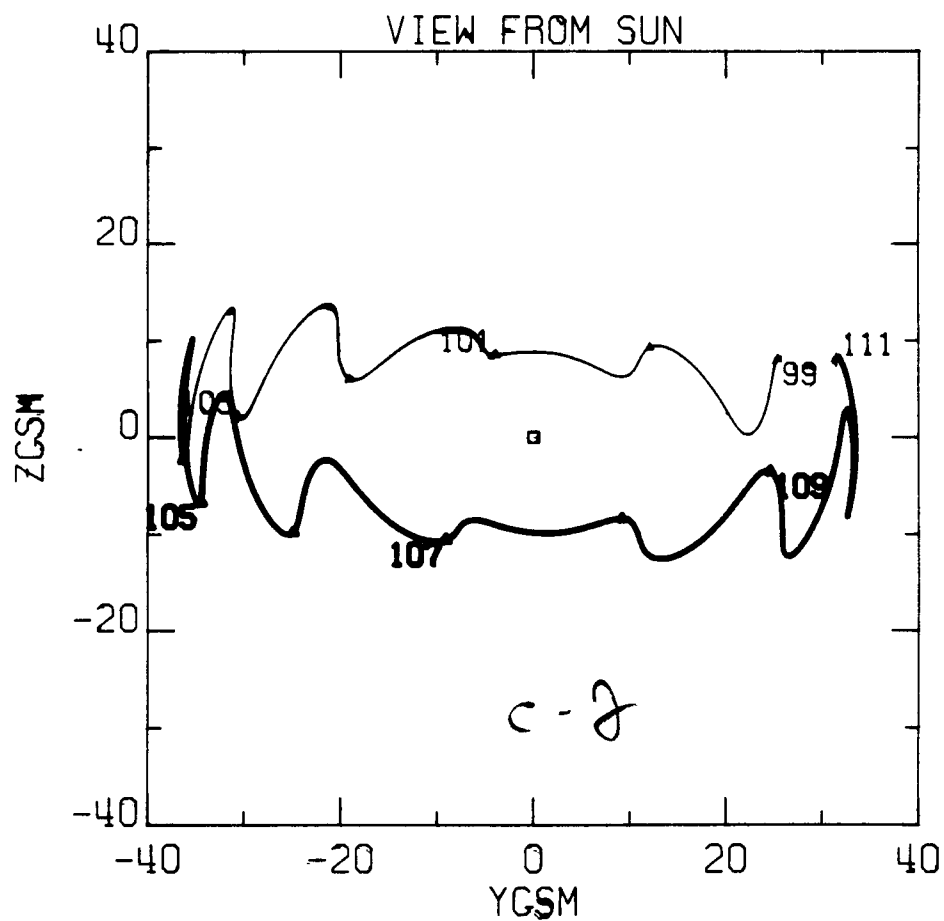
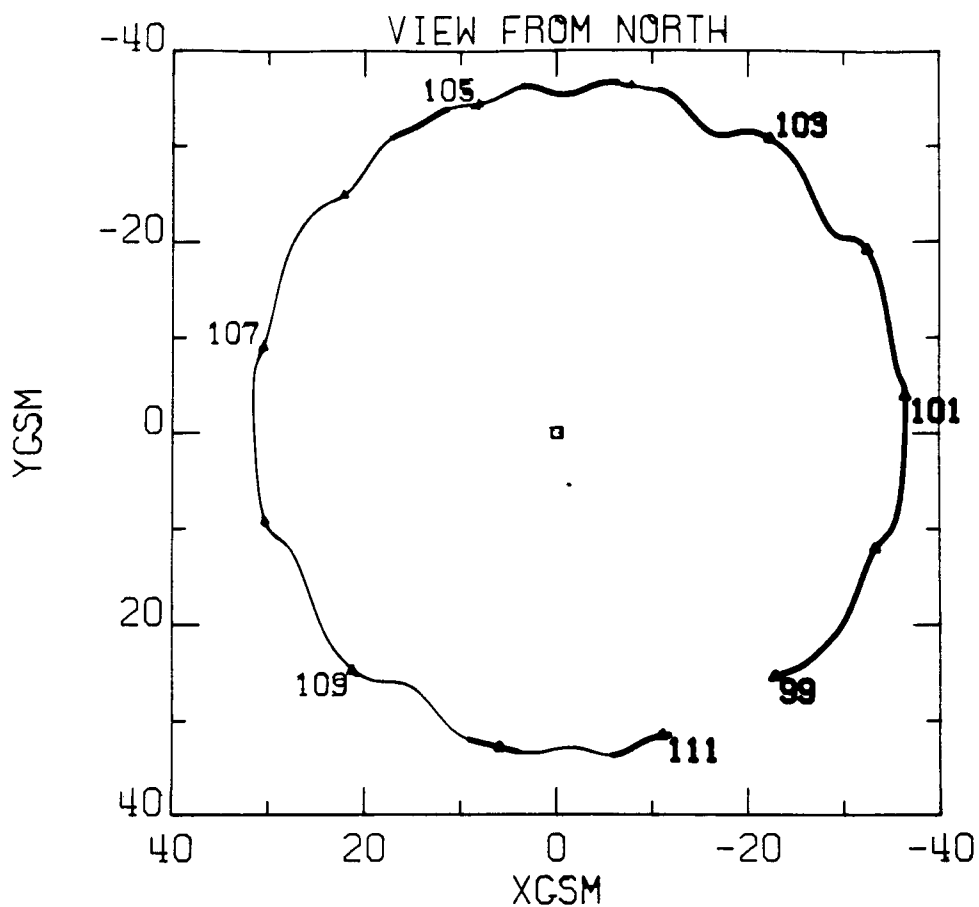
ASCENDING NODE 46

FROM MAR 27 TO APR 8 1974

DAYS 86 THRU 98



IMP 7 FROM APR 8 TO APR 21 1974

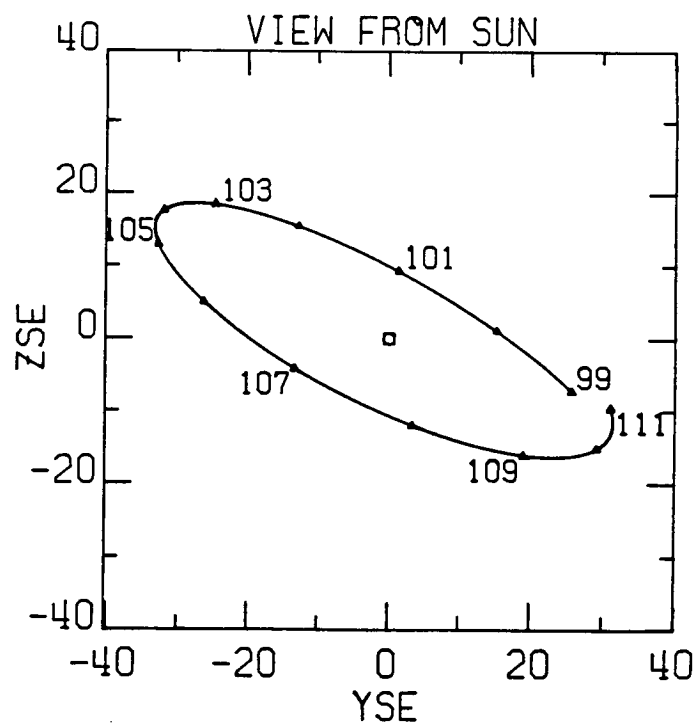
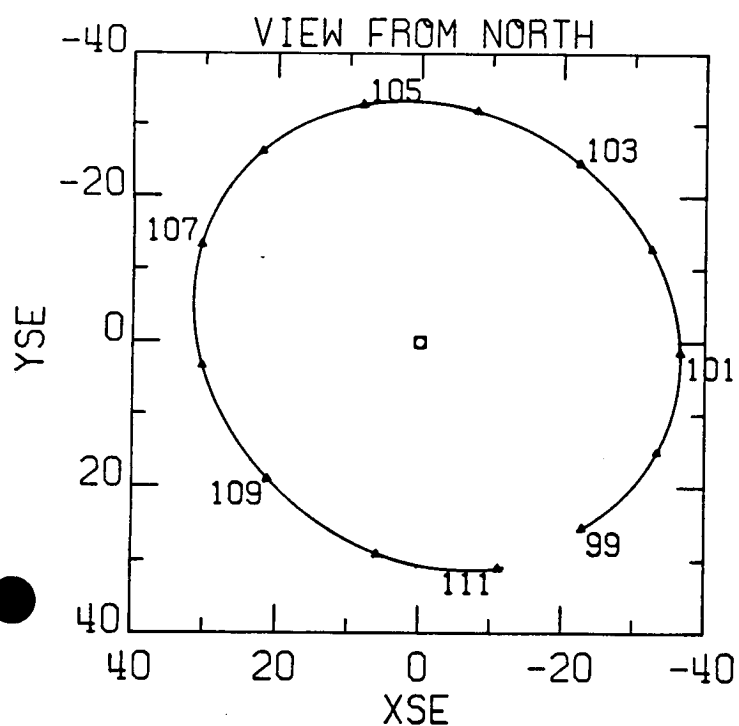
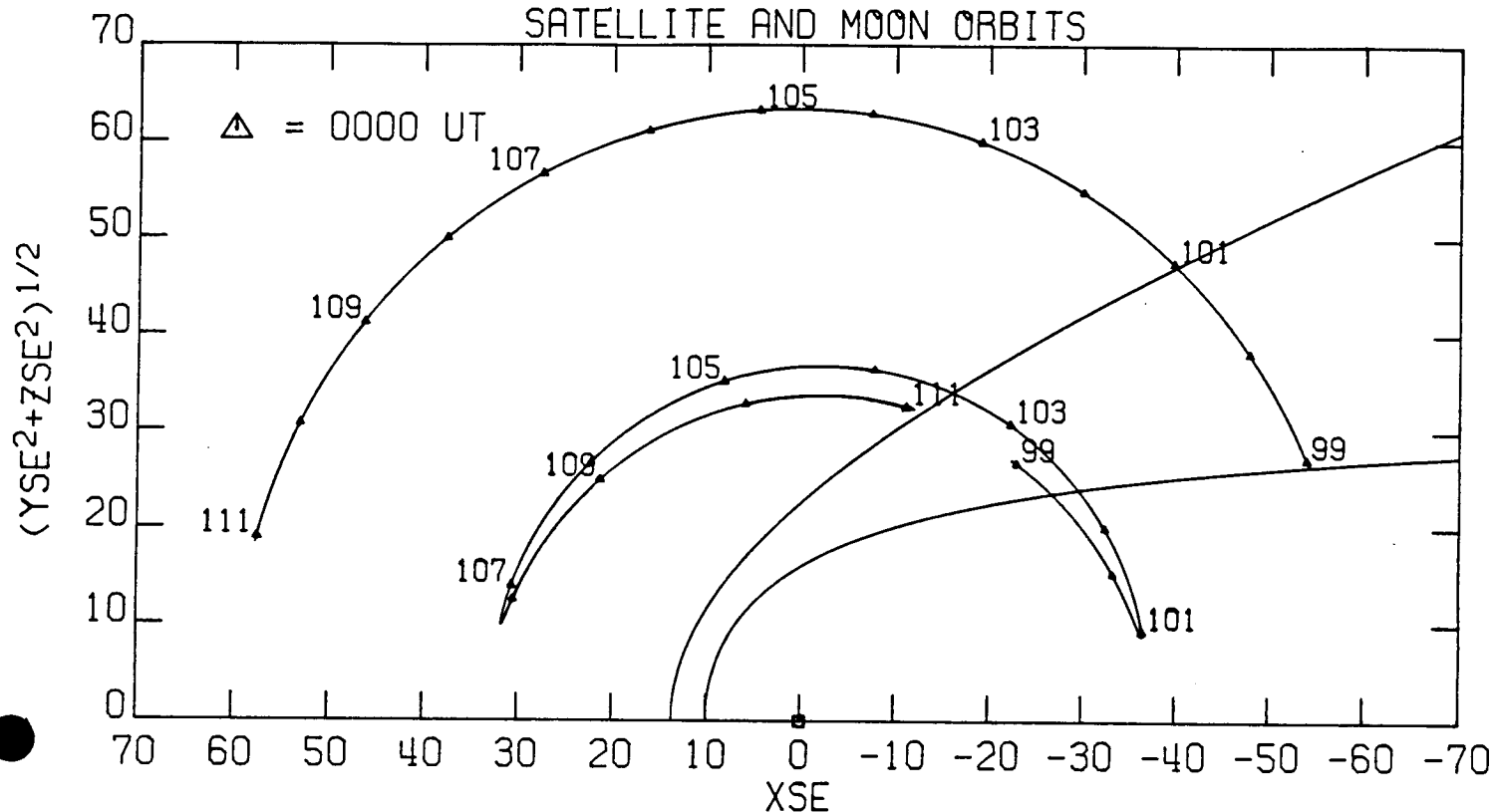


IMP 7 TRAJECTORY. ASCENDING NODE 47

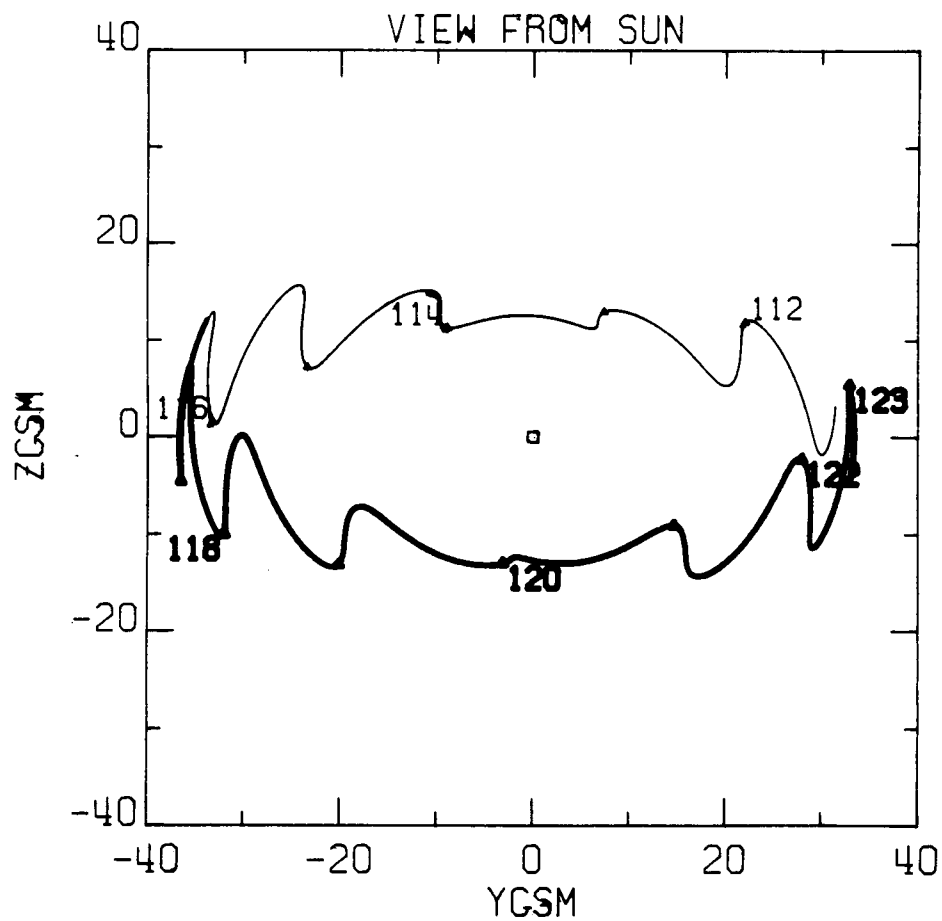
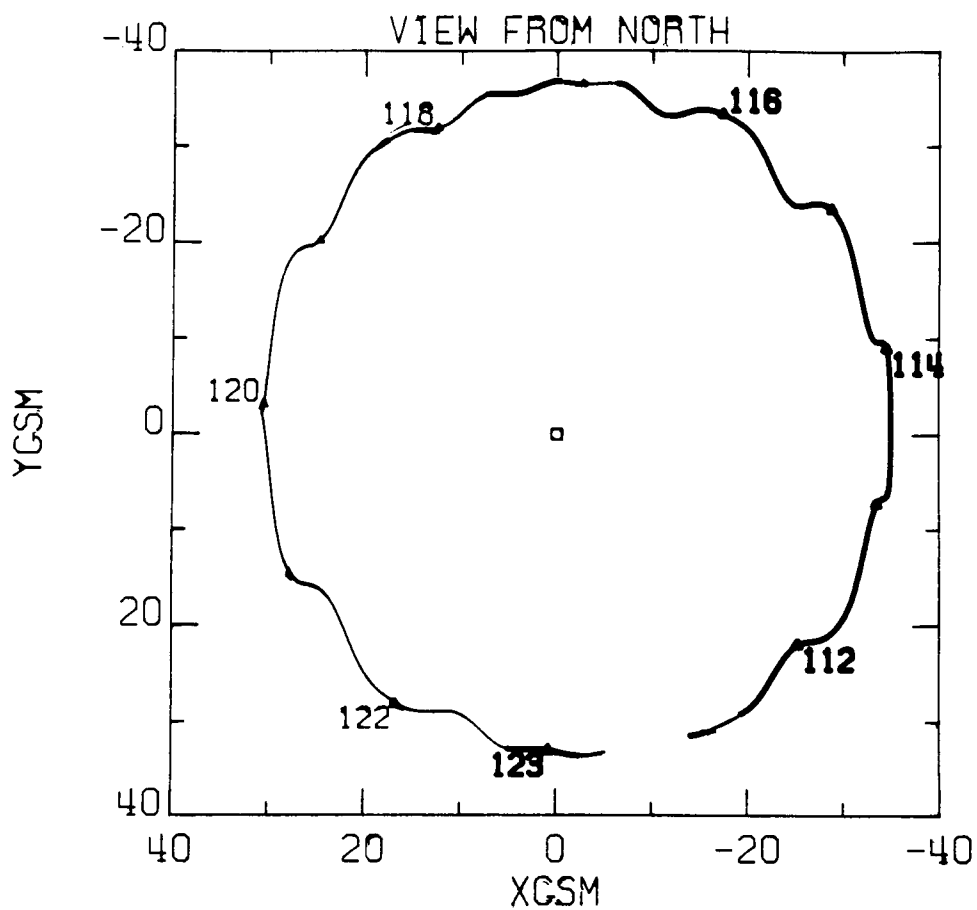
FROM APR 8 TO APR 21 1974

DAYS 98 THRU 111

SATELLITE AND MOON ORBITS



IMP 7 FROM APR 21 TO MAY 3 1974

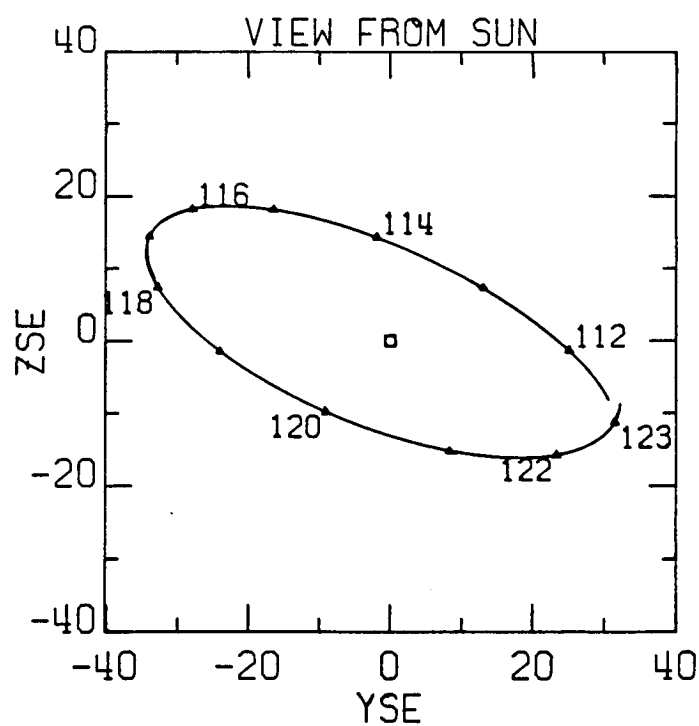
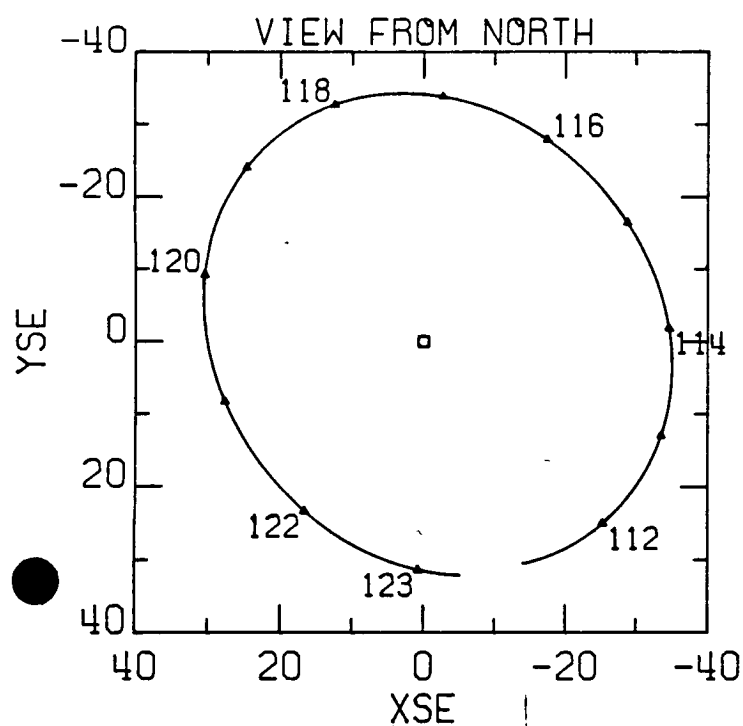
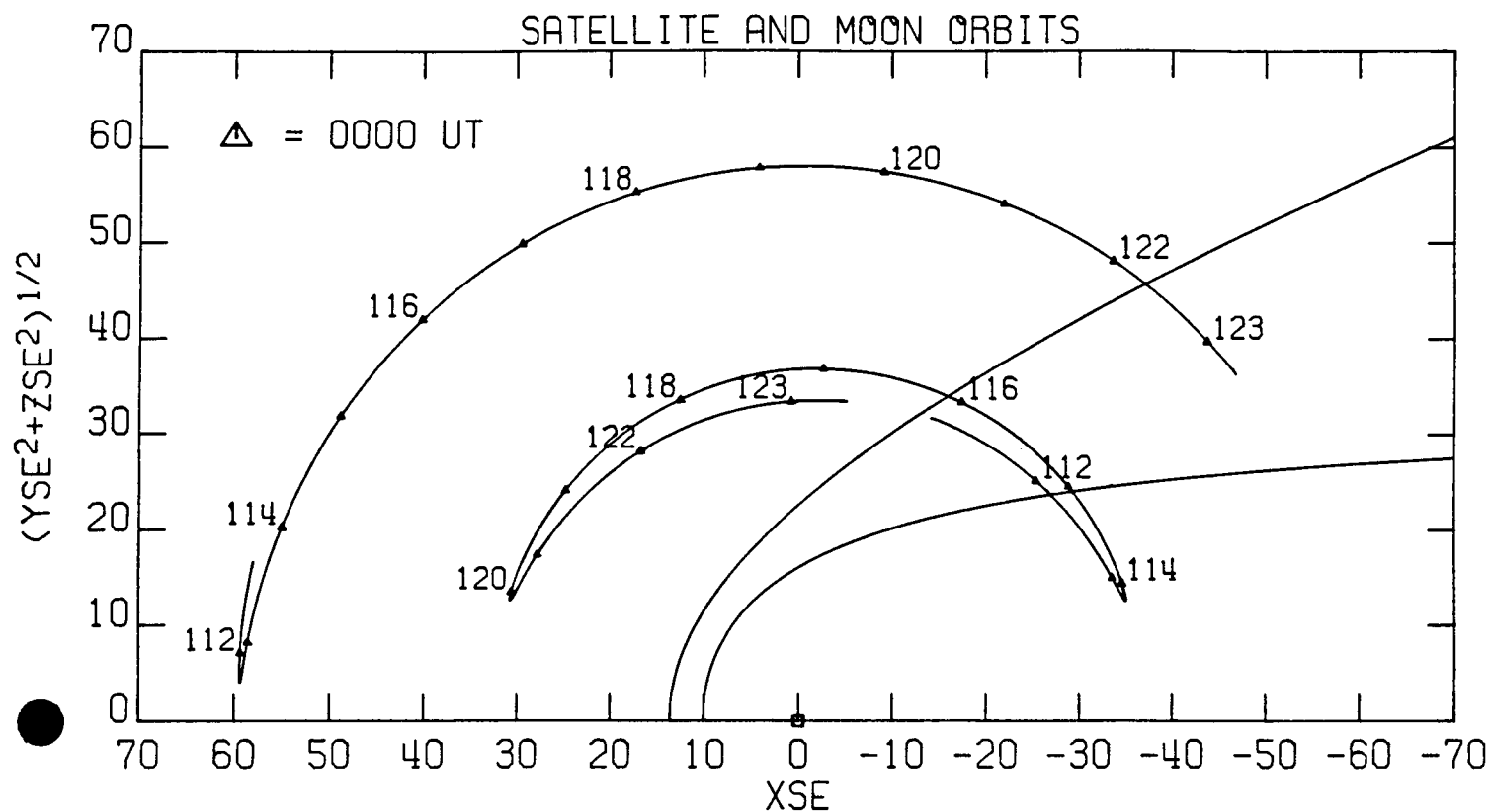


IMP 7 TRAJECTORY.

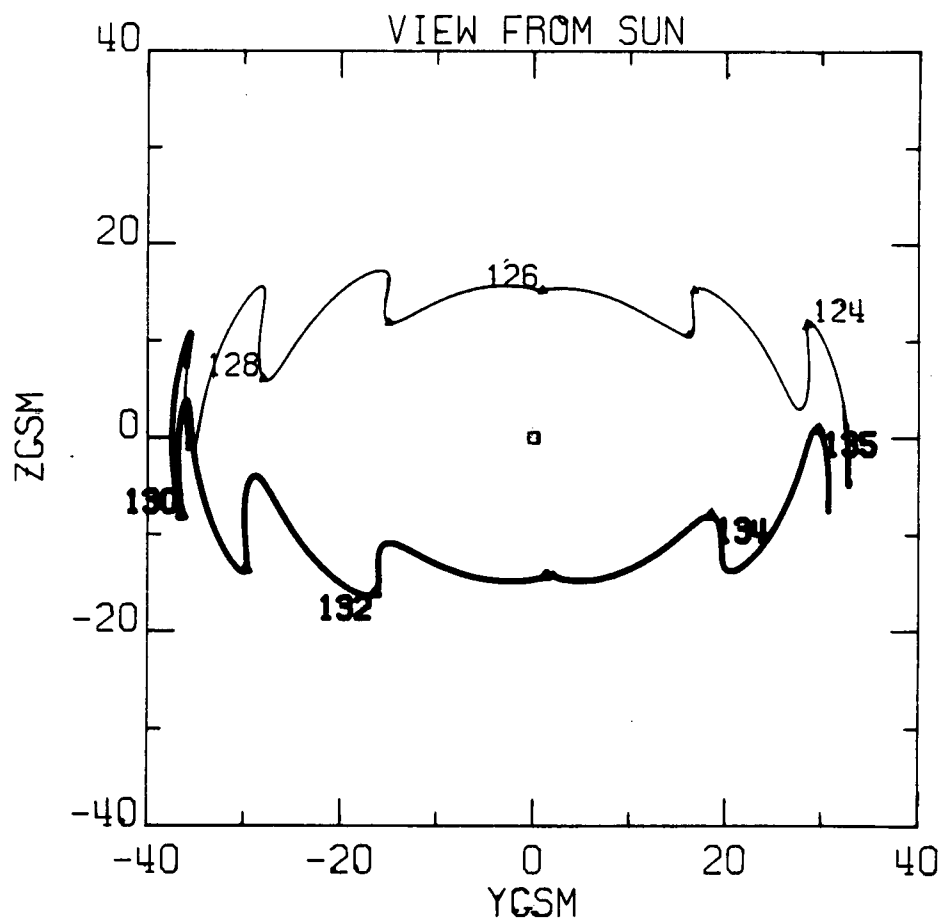
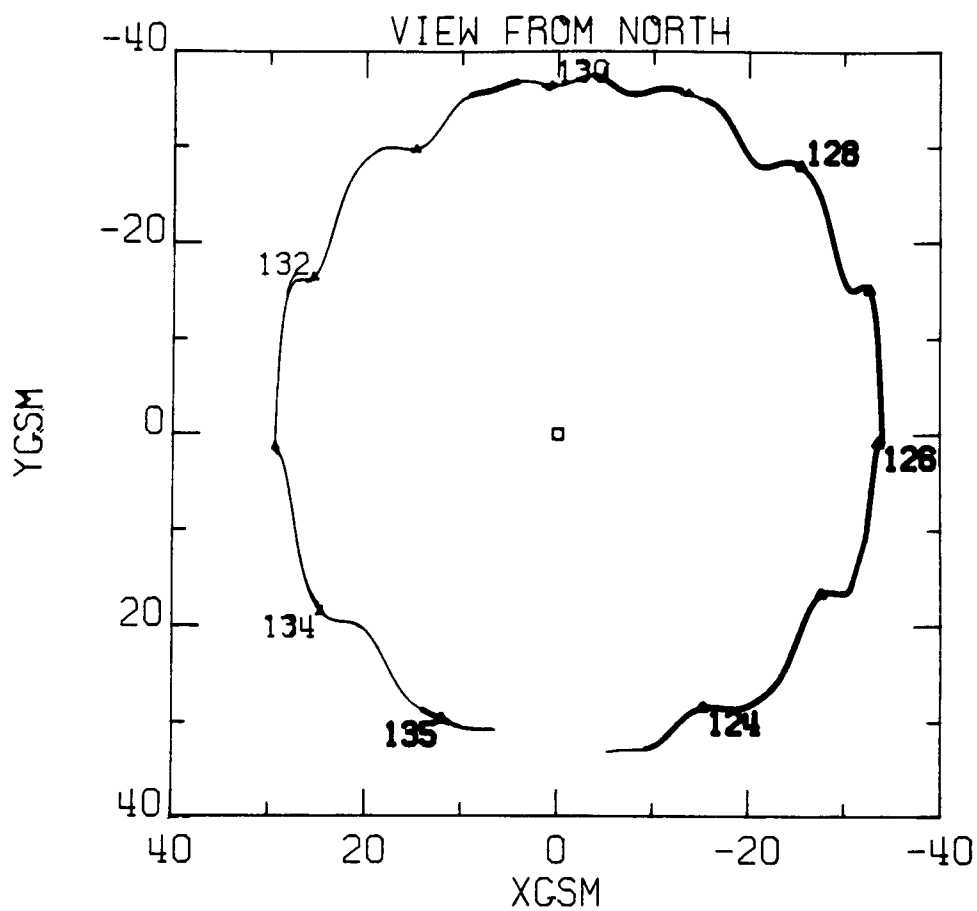
ASCENDING NODE 48

FROM APR 21 TO MAY 3 1974

DAYS 111 THRU 123



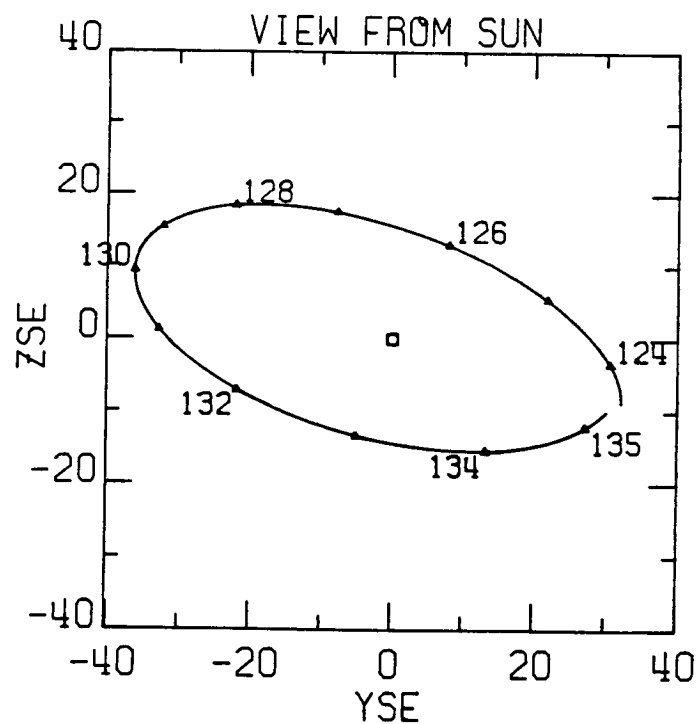
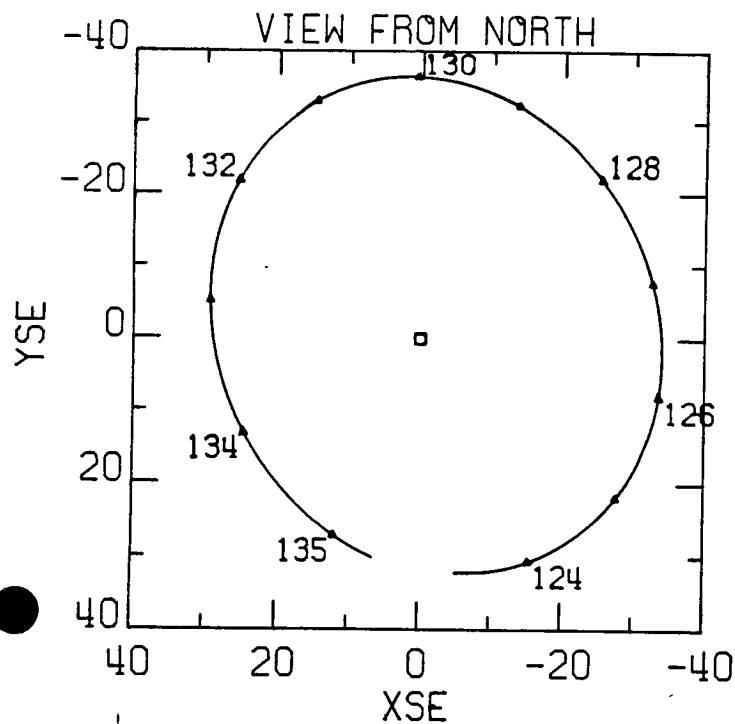
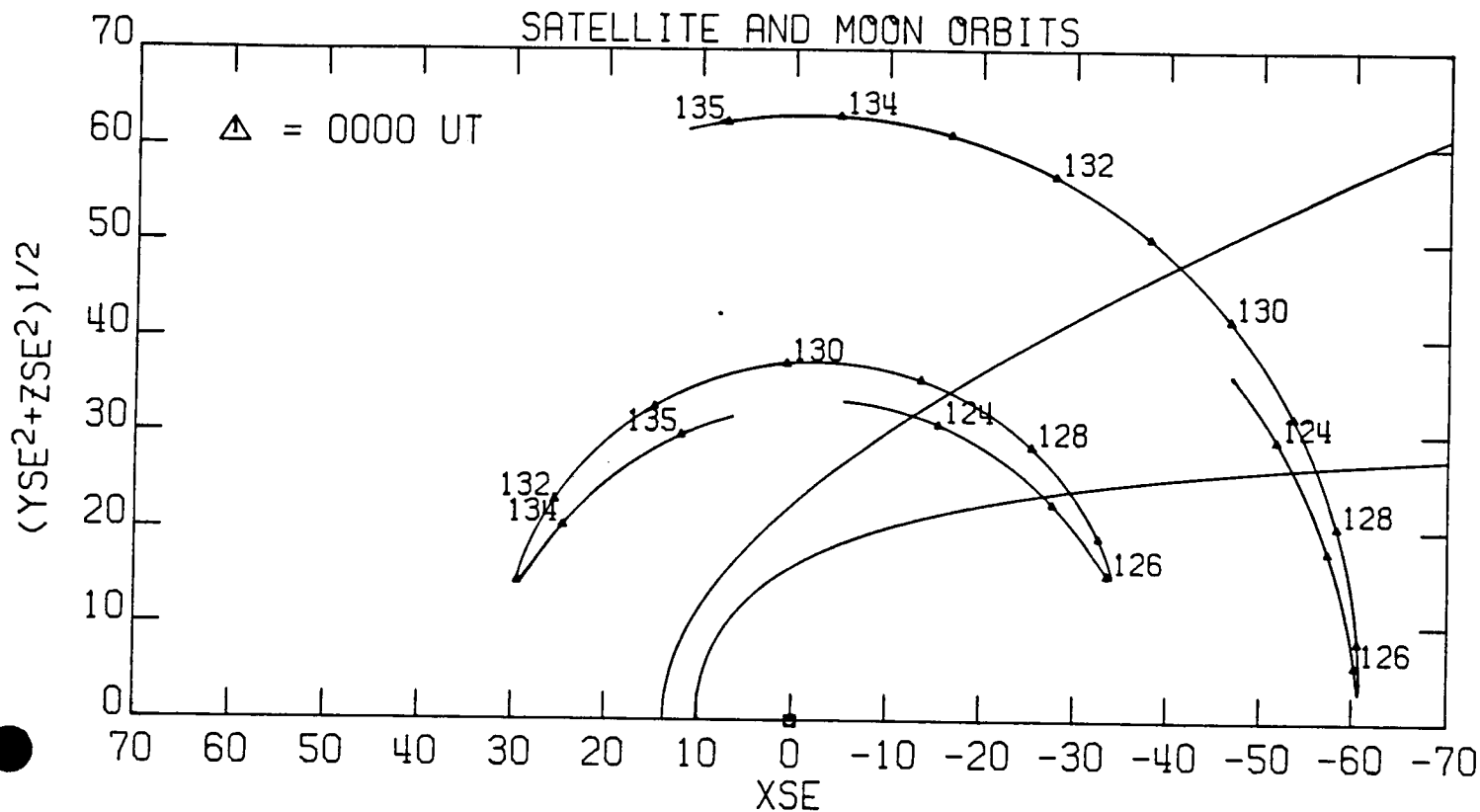
IMP 7 FROM MAY 3 TO MAY 15 1974



IMP 7 TRAJECTORY. ASCENDING NODE 49

FROM MAY 3 TO MAY 15 1974

DAYS 123 THRU 135

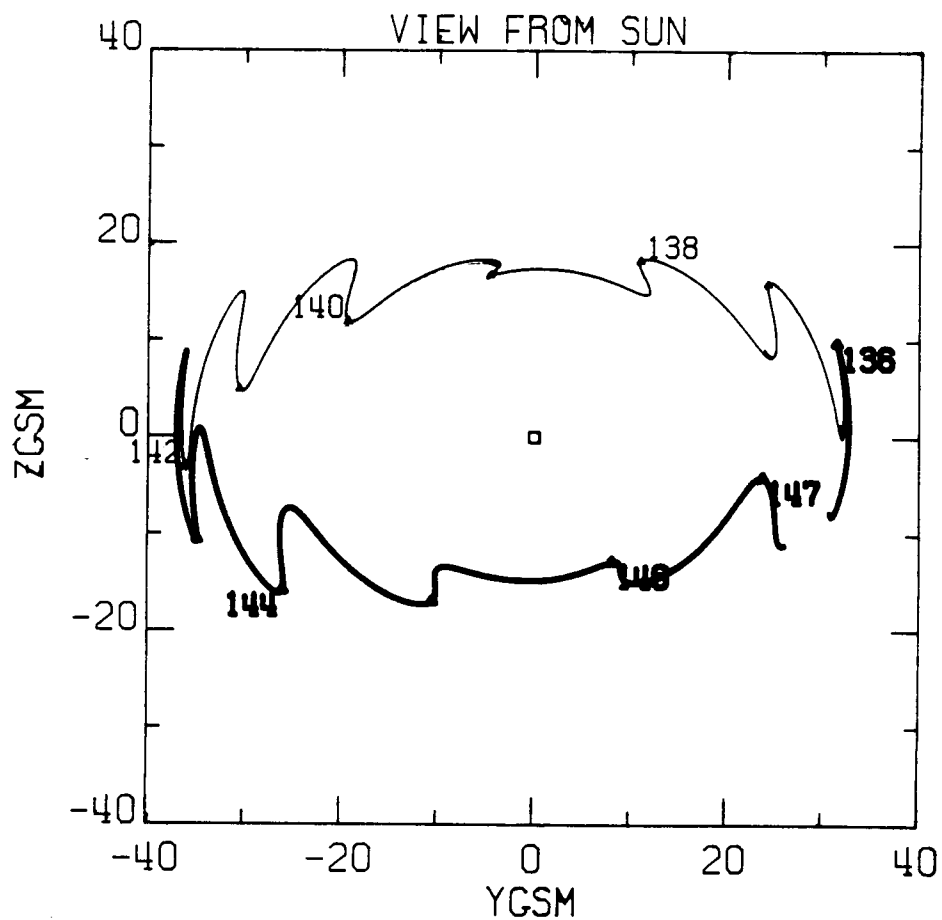
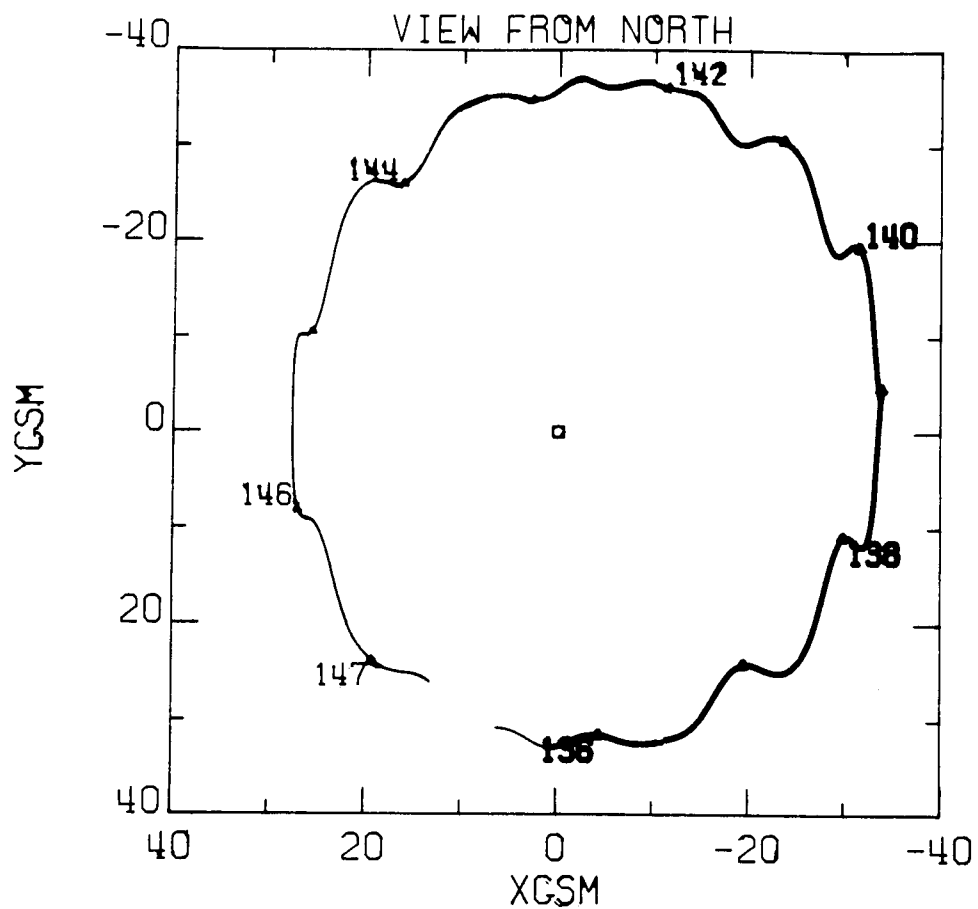


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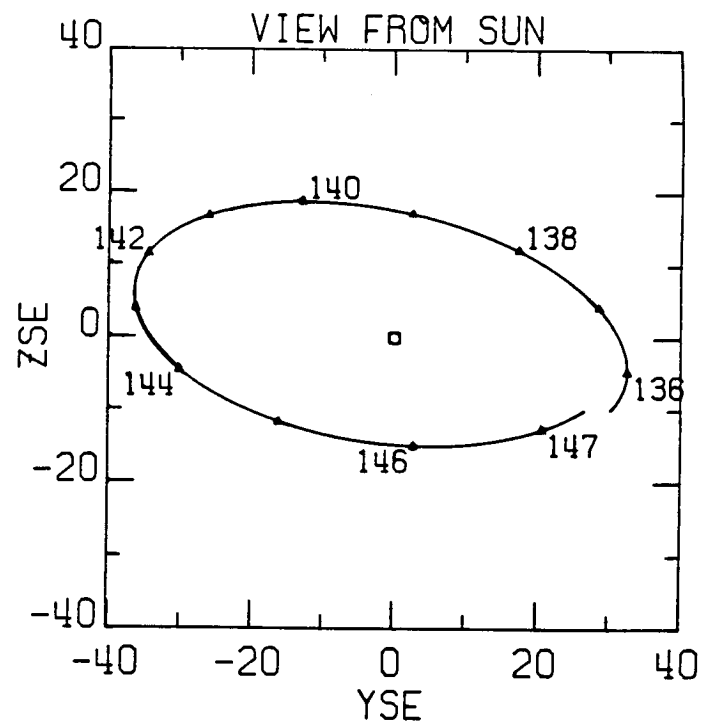
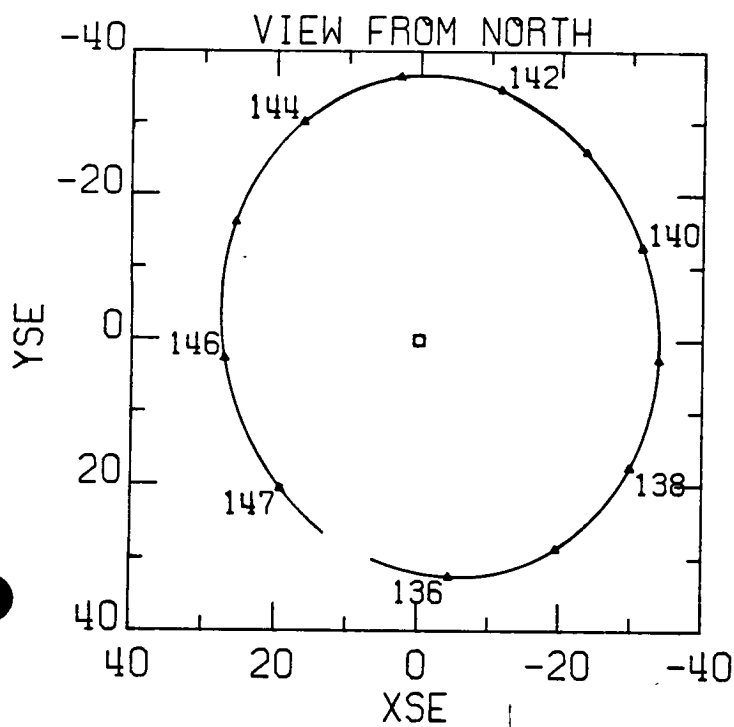
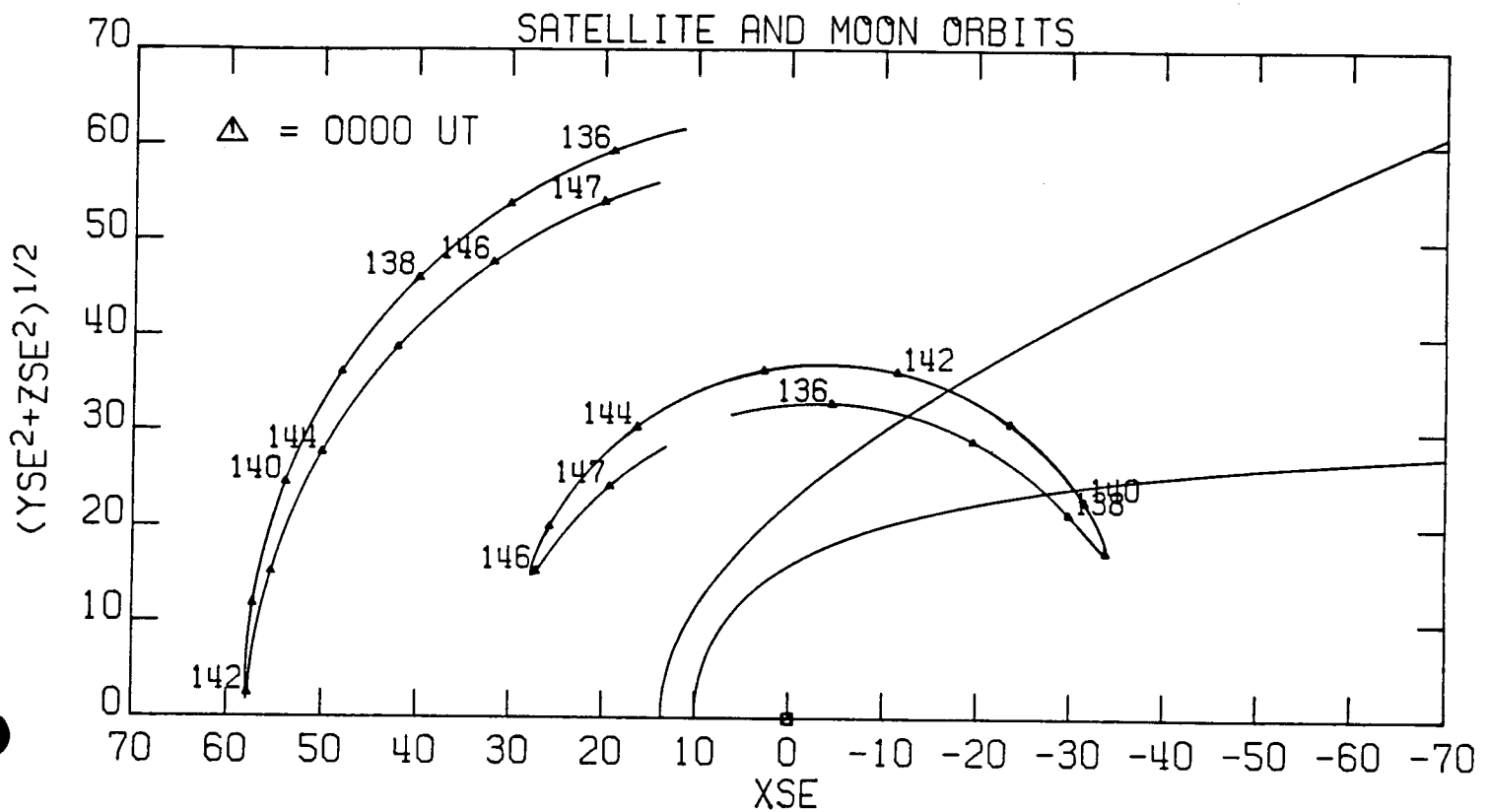
IMP 7 FROM MAY 15 TO MAY 27 1974



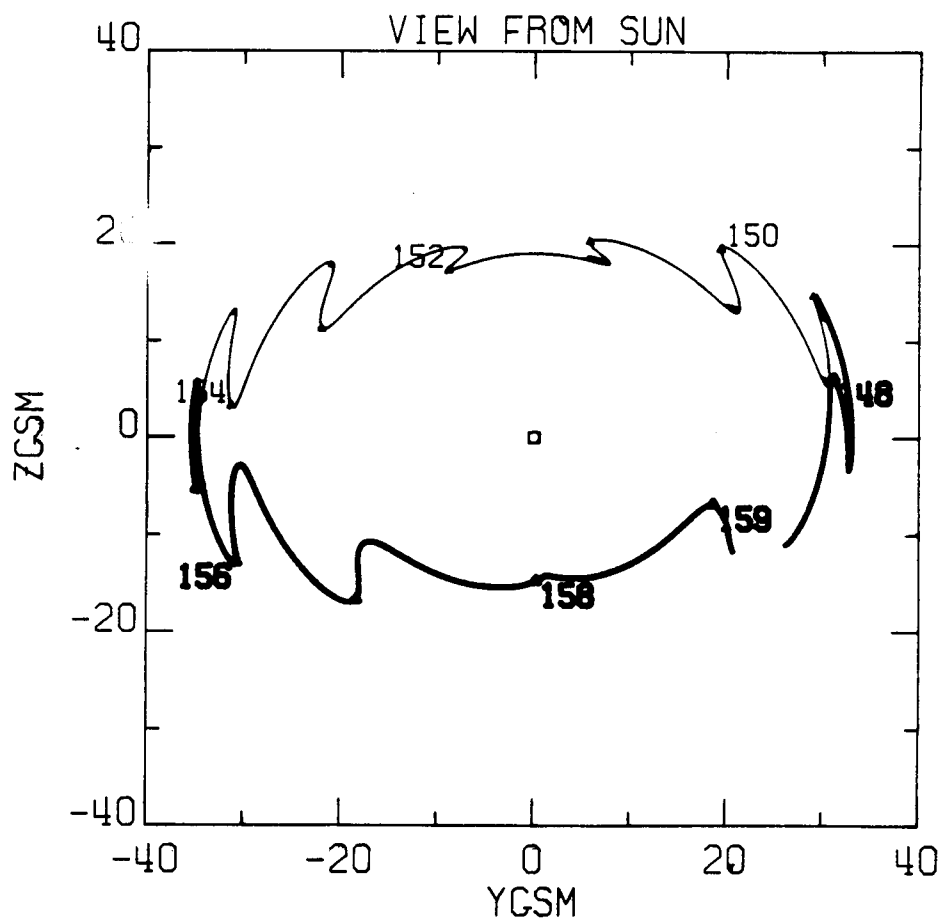
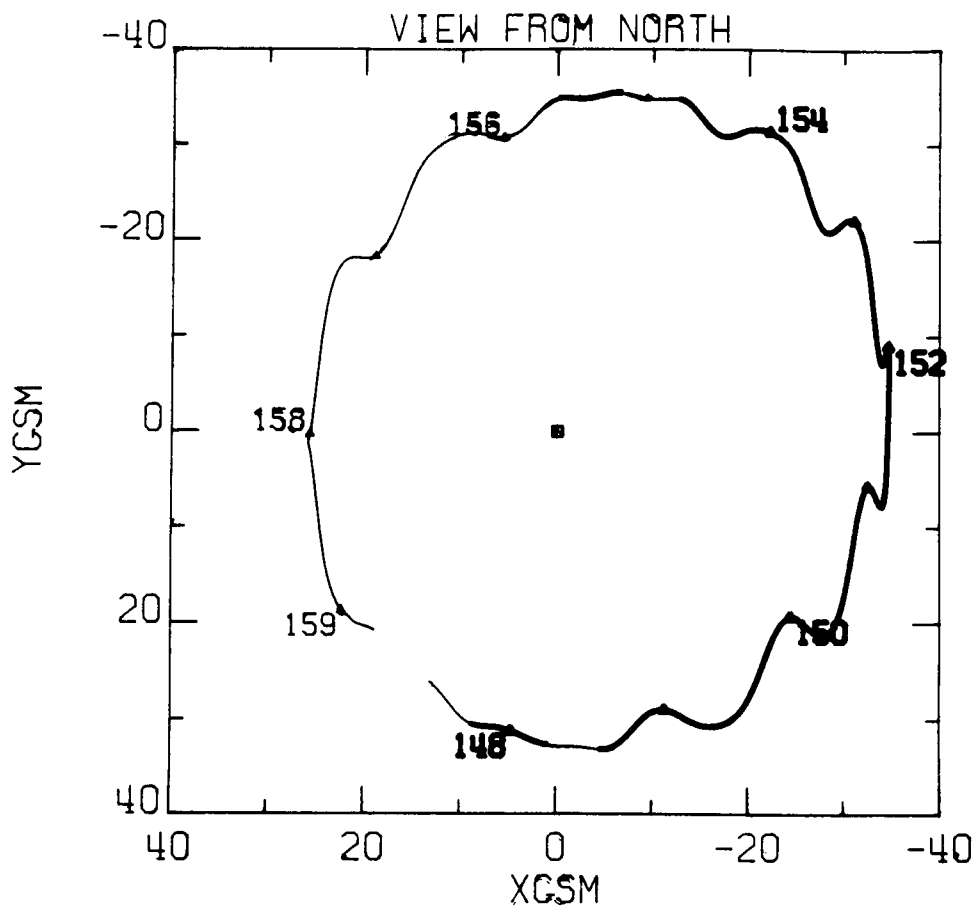
IMP 7 TRAJECTORY. ASCENDING NODE 50

FROM MAY 15 TO MAY 27 1974

DAYS 135 THRU 147



IMP 7 FROM MAY 27 TO JUN 8 1974

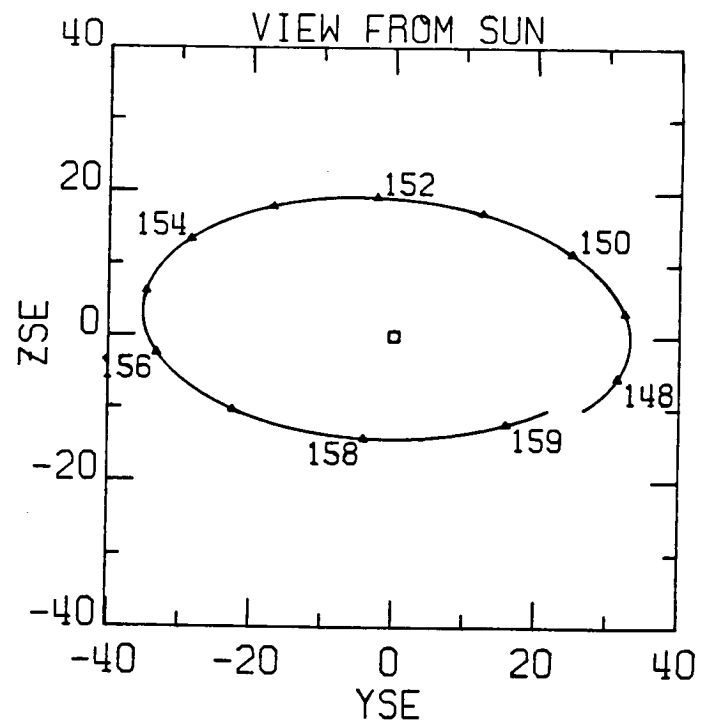
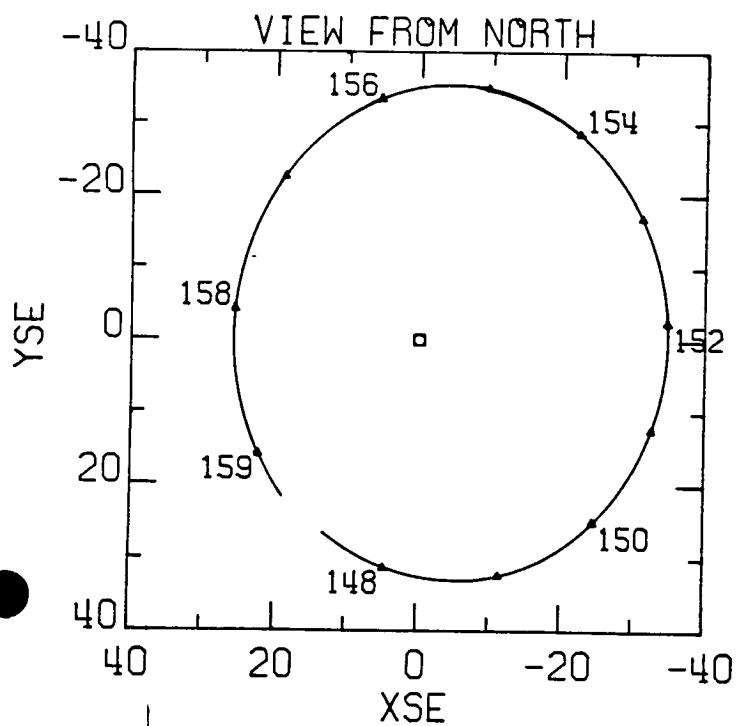
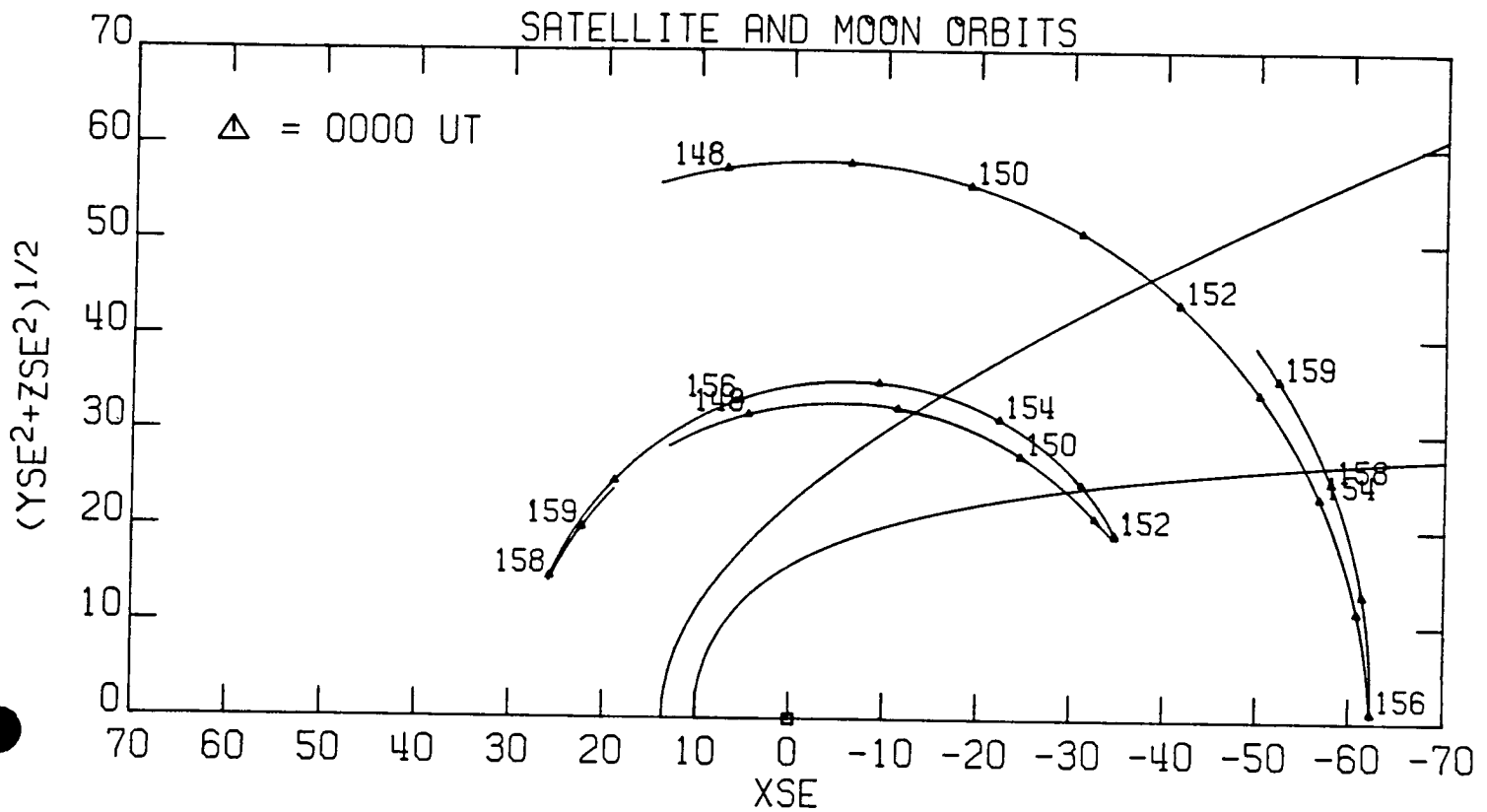


IMP 7 TRAJECTORY.

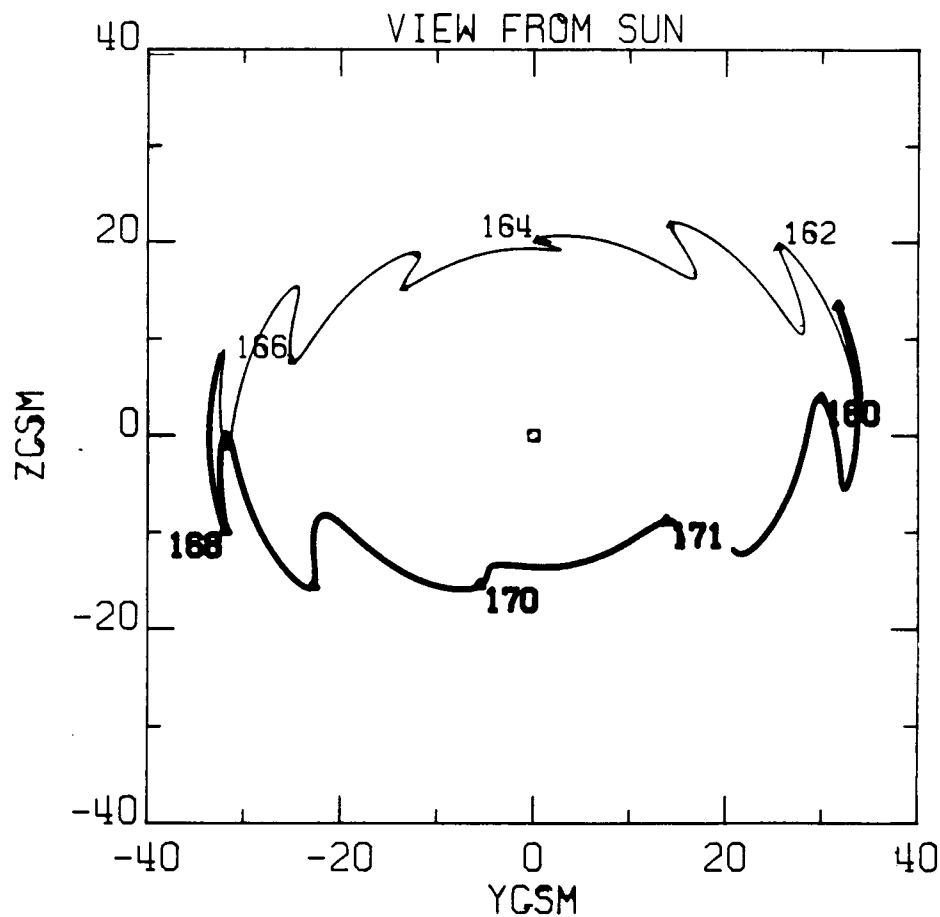
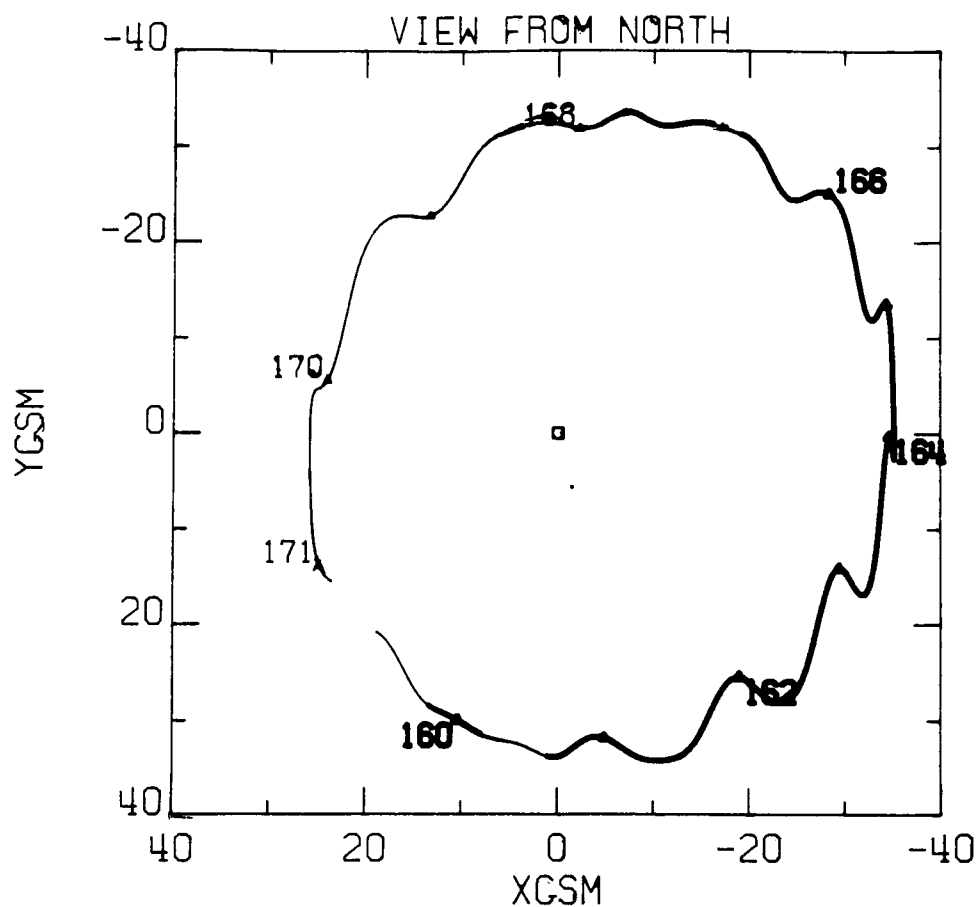
ASCENDING NODE 51

FROM MAY 27 TO JUN 8 1974

DAYS 147 THRU 159



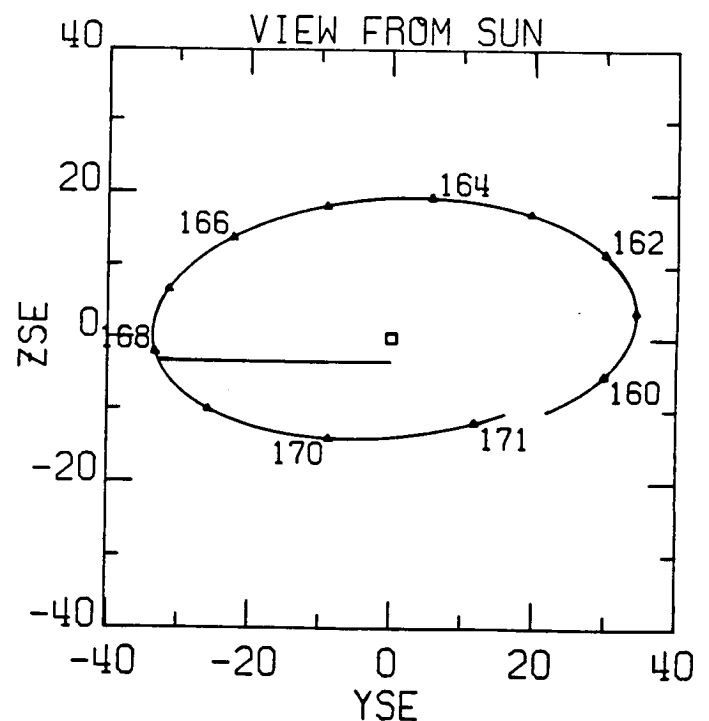
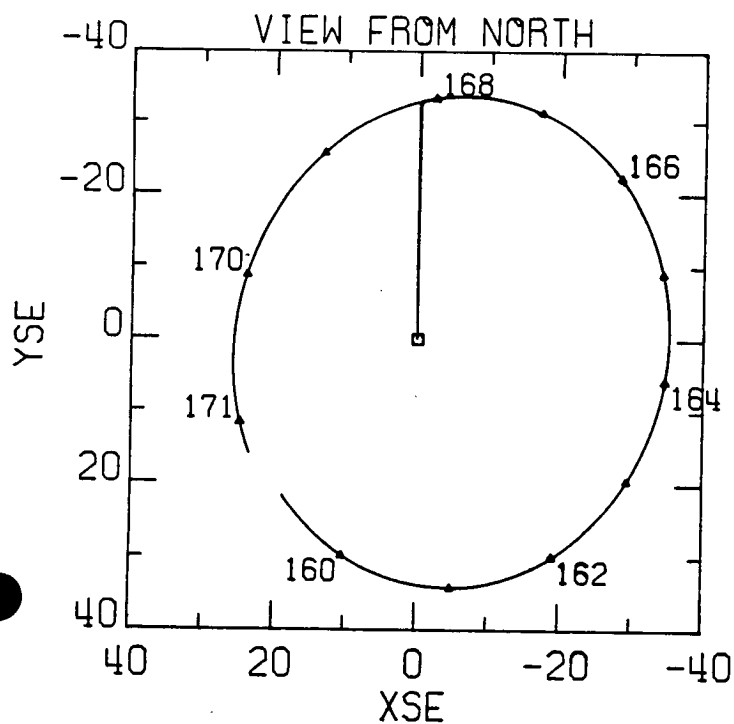
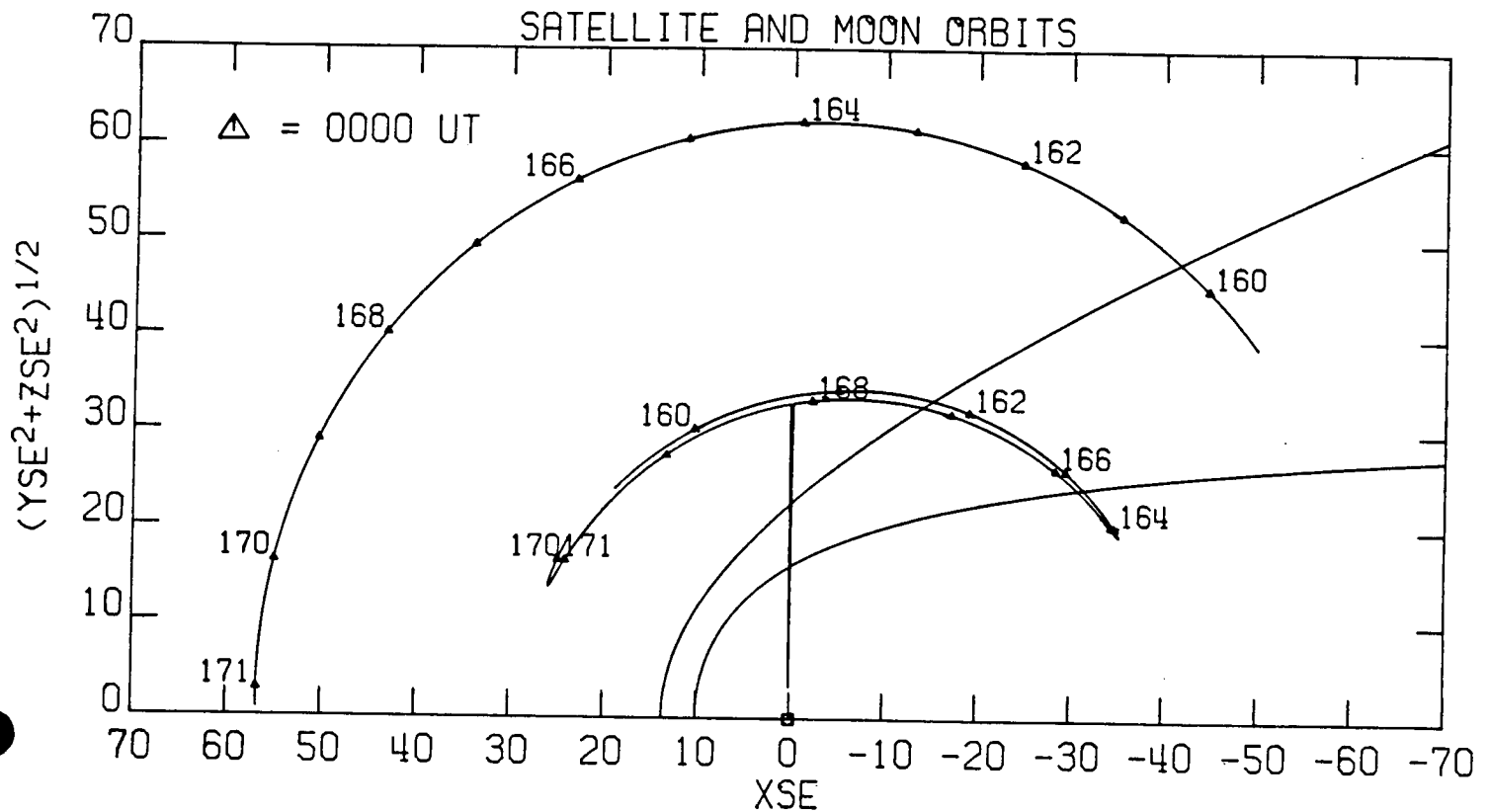
IMP 7 FROM JUN 8 TO JUN 20 1974



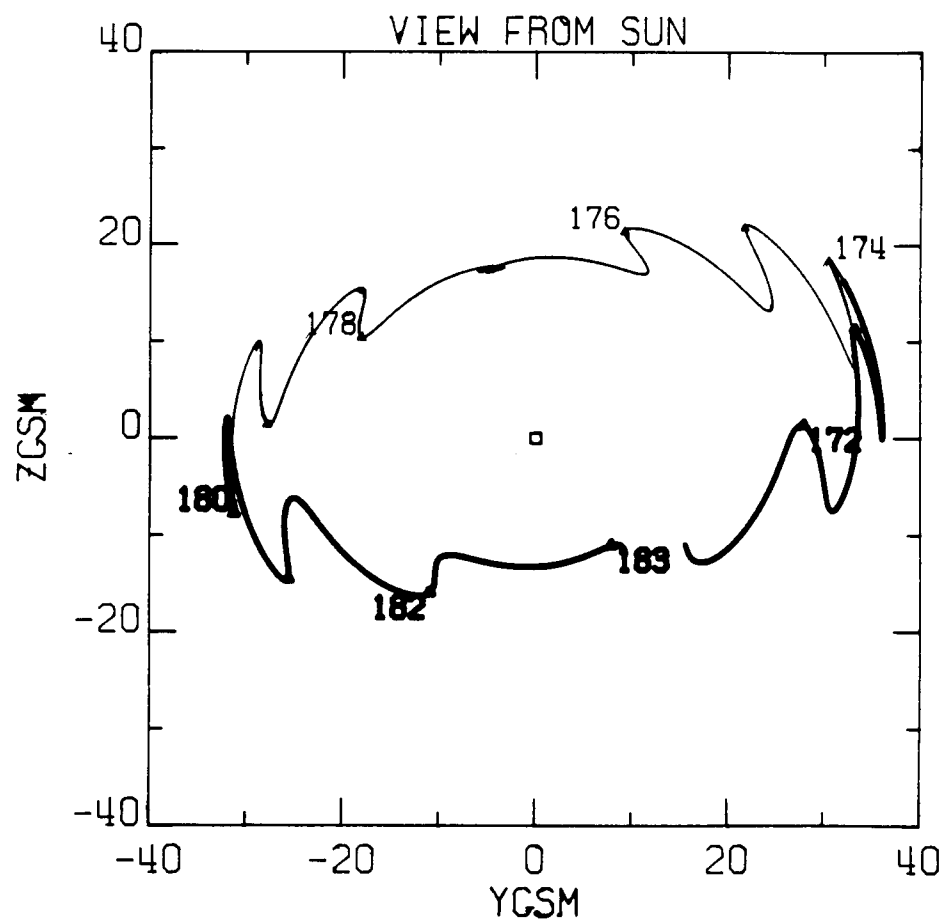
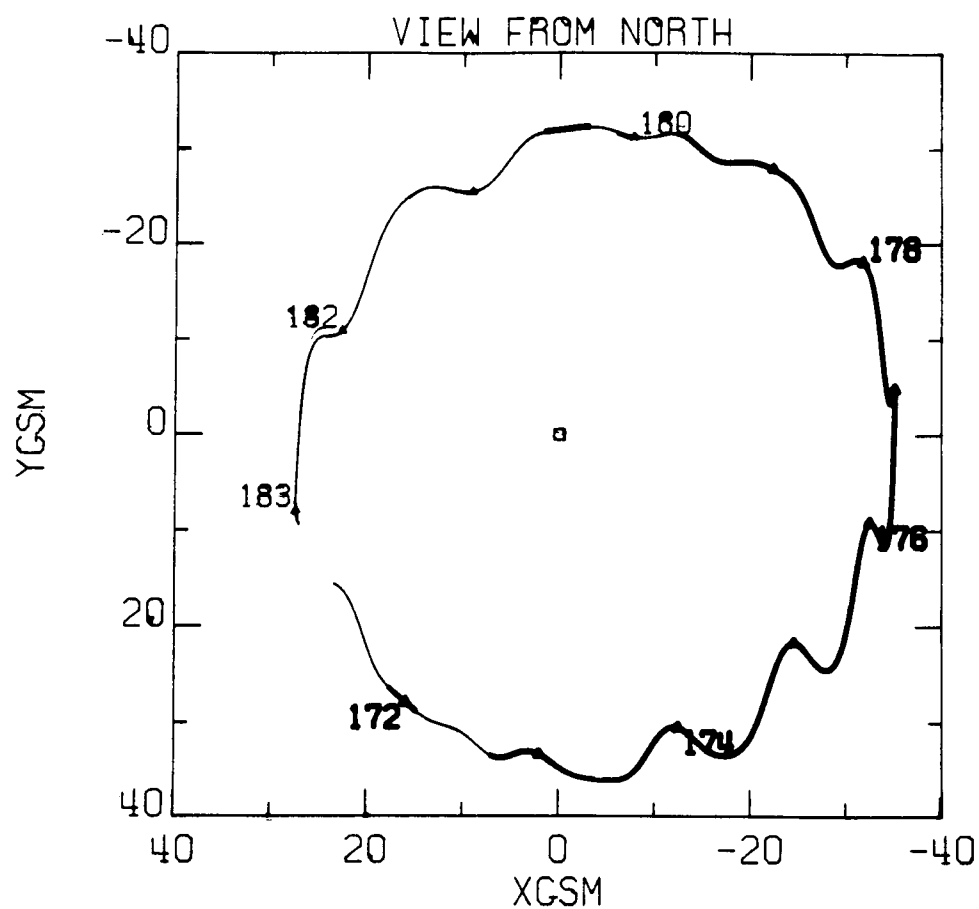
IMP 7 TRAJECTORY. ASCENDING NODE 52

FROM JUN 8 TO JUN 20 1974

DAYS 159 THRU 171



IMP 7 FROM JUN 20 TO JUL 2 1974

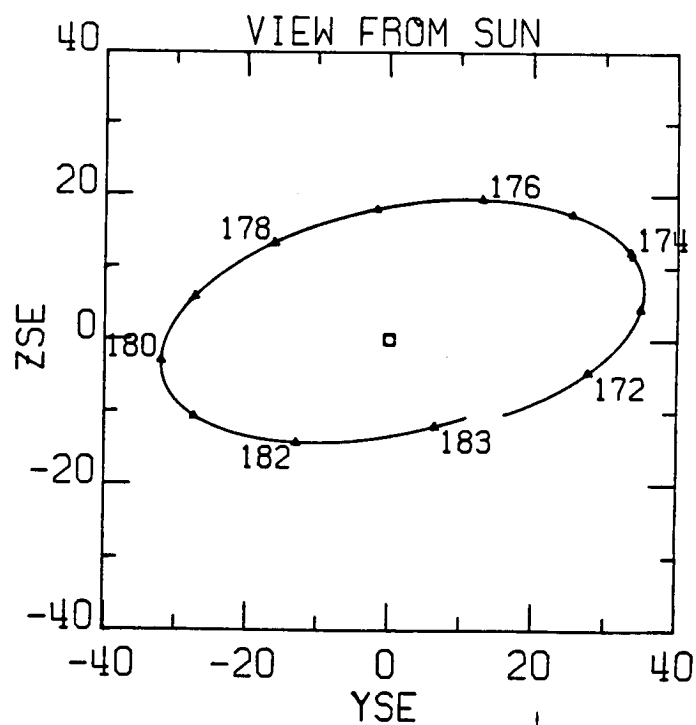
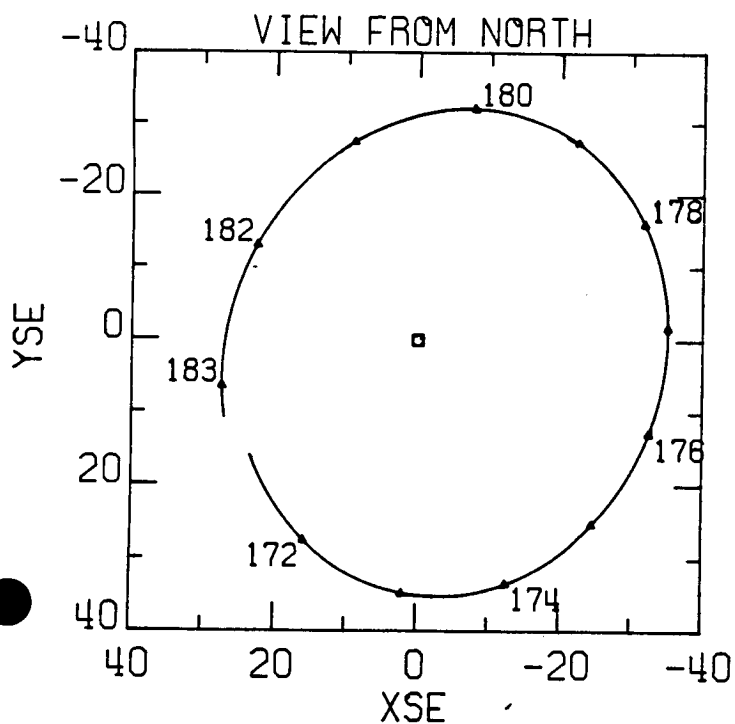
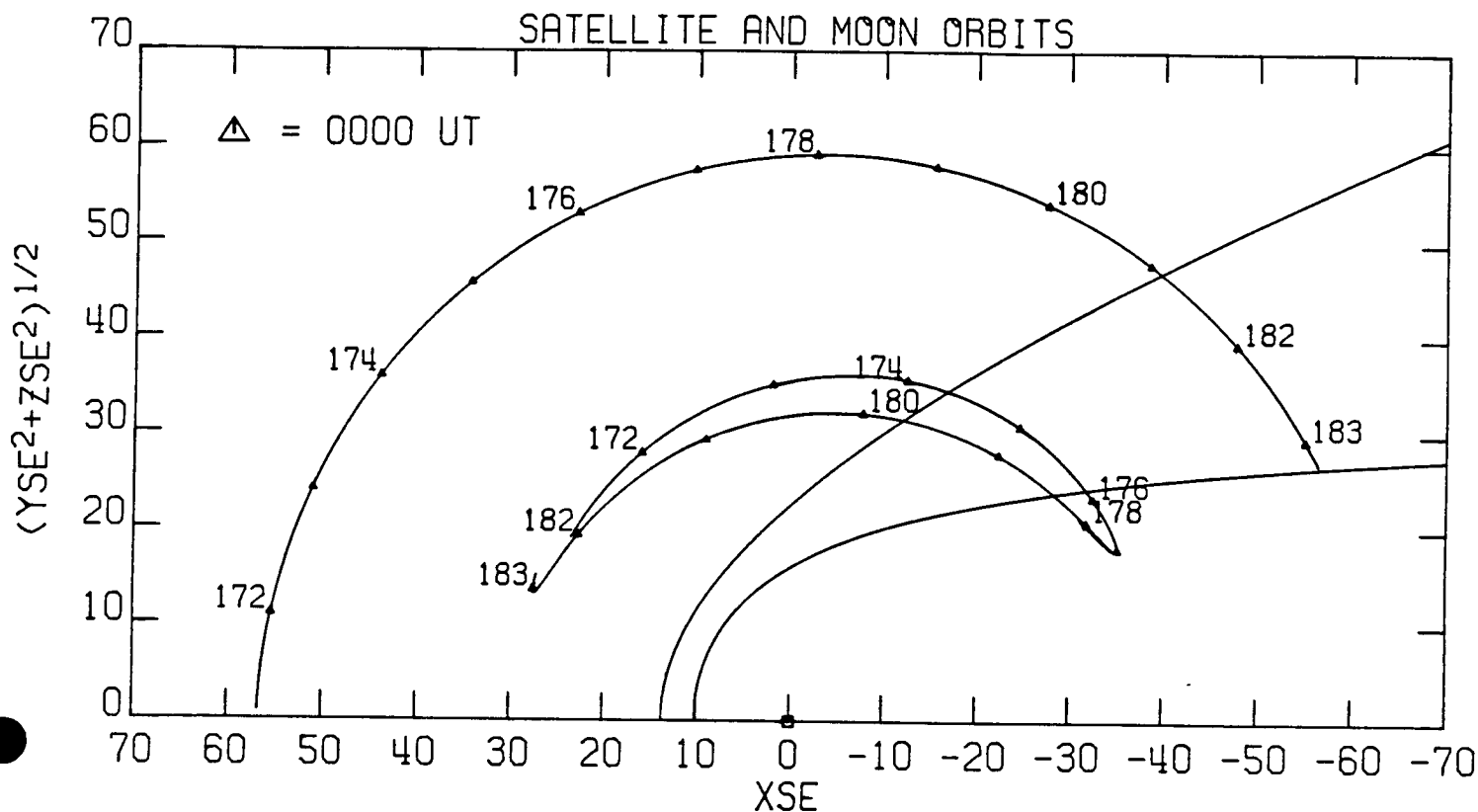


IMP 7 TRAJECTORY.

ASCENDING NODE 53

FROM JUN 20 TO JUL 2 1974

DAYS 171 THRU 183



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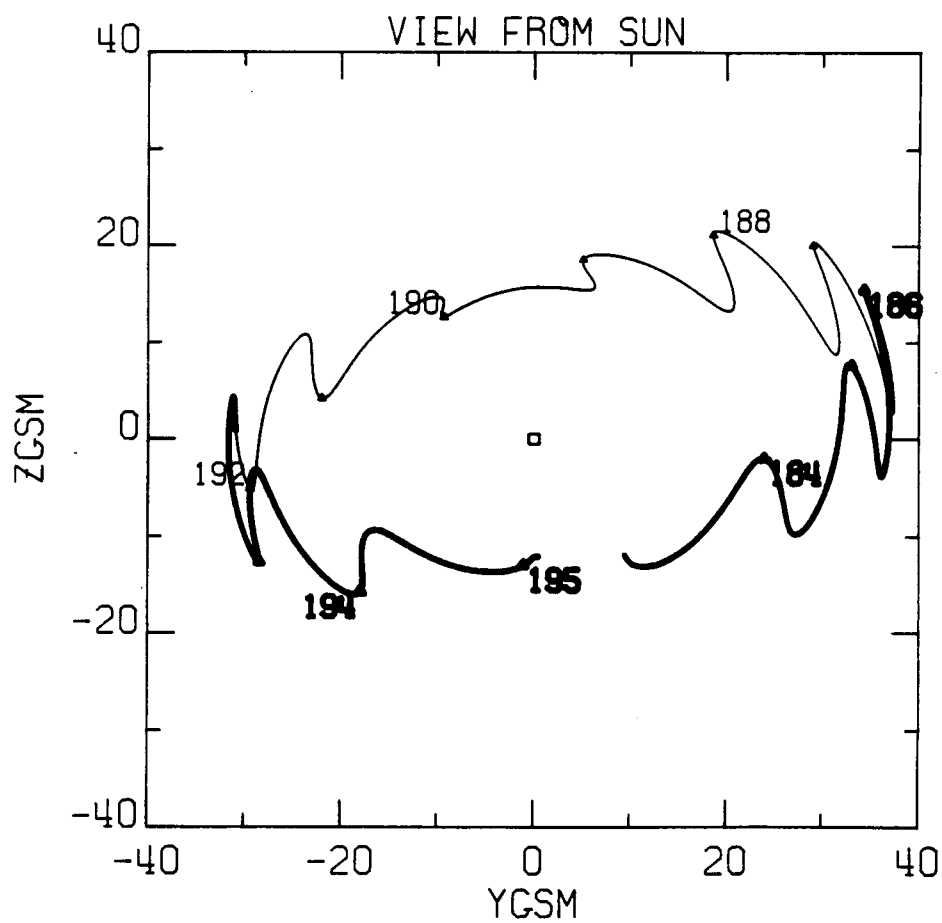
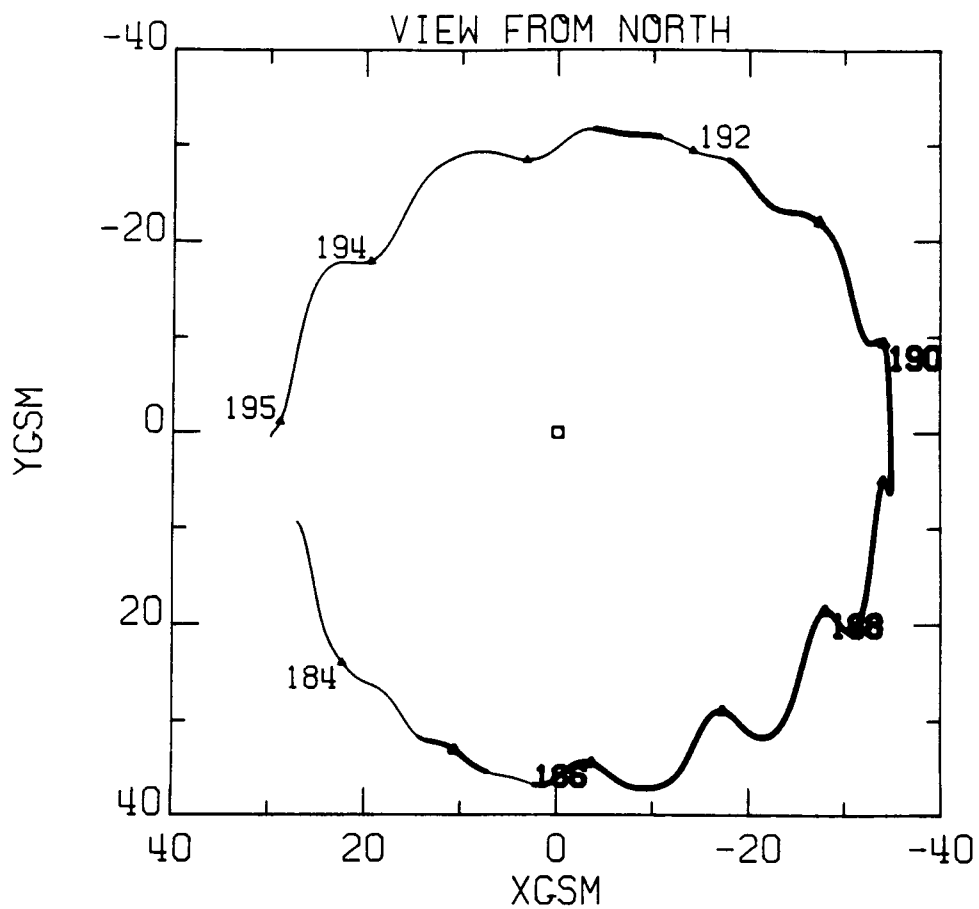
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IMP 7 FROM JUL 2 TO JUL 14 1974

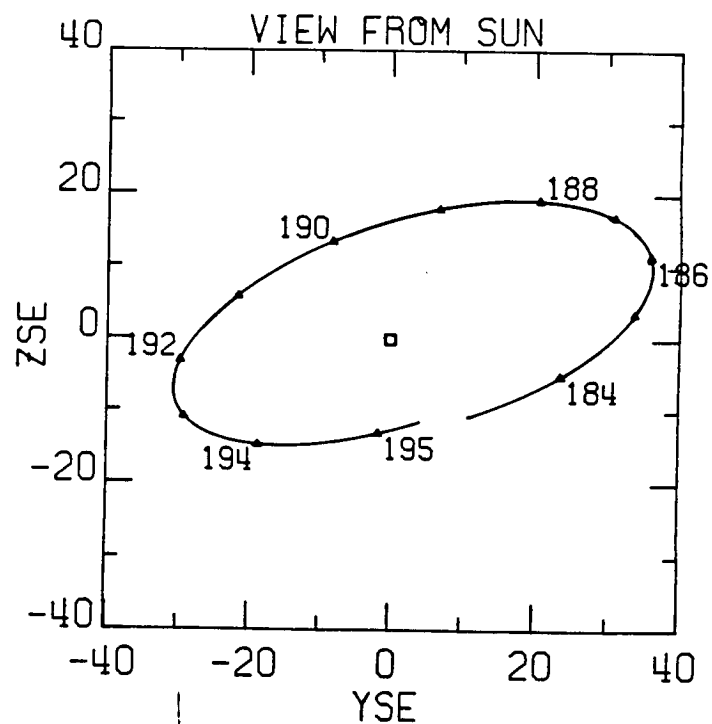
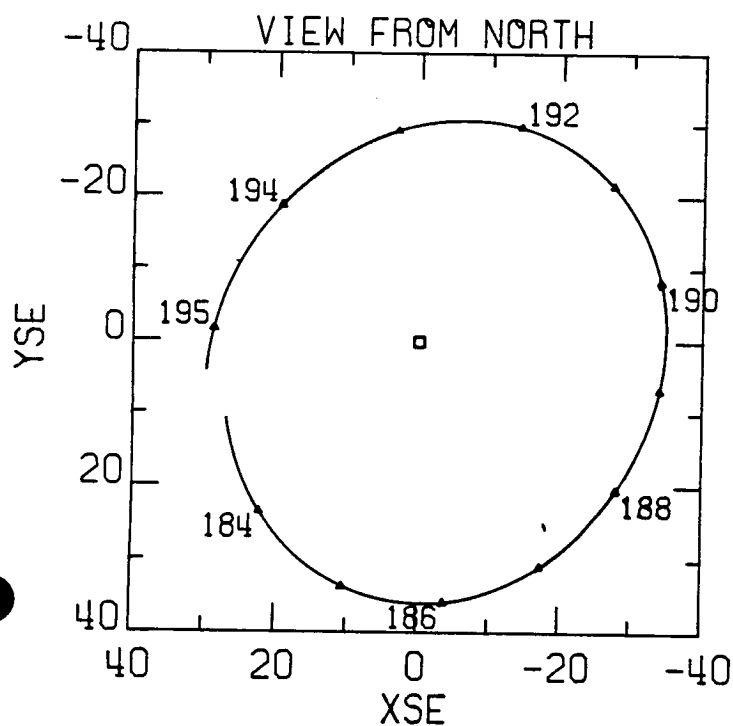
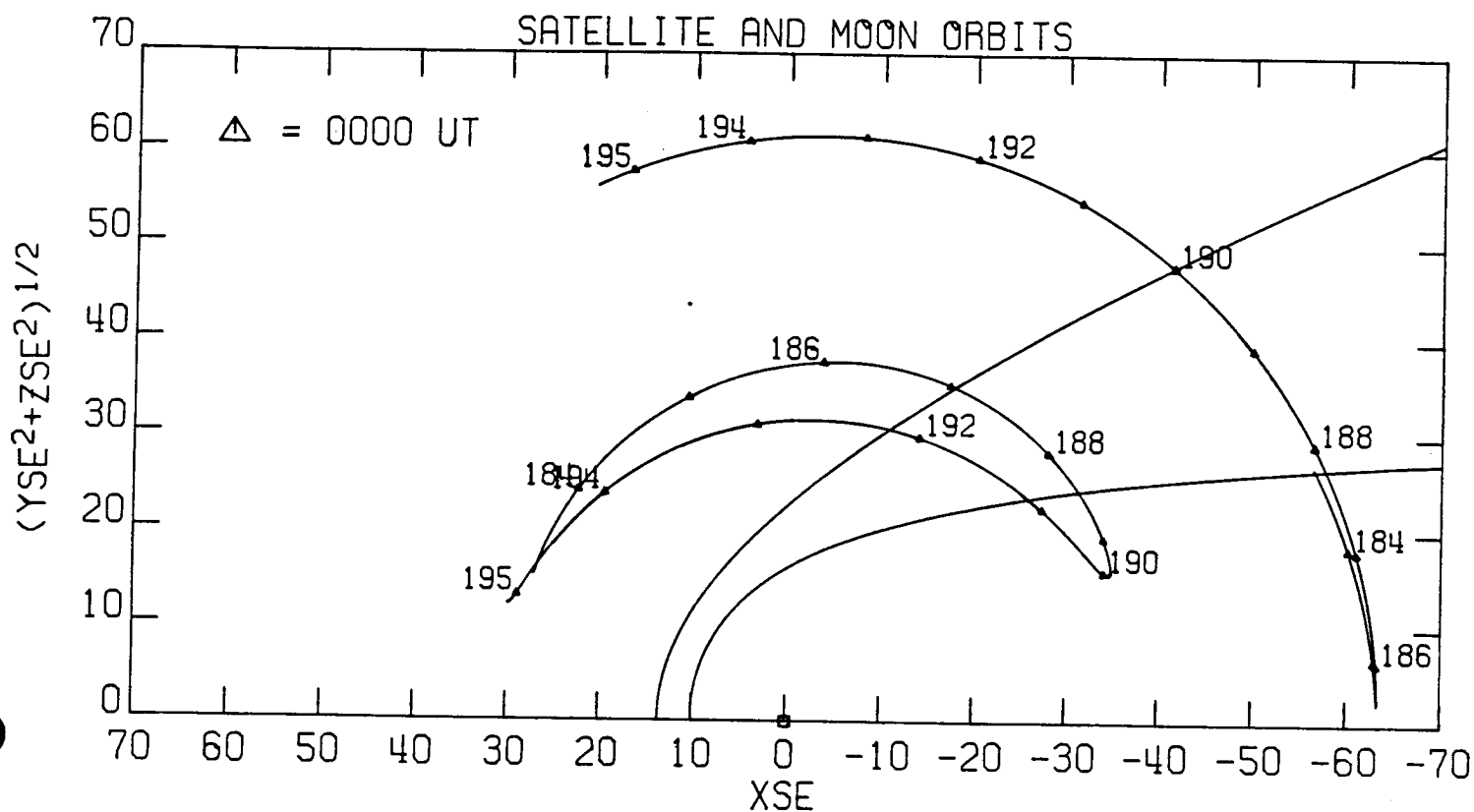


IMP 7 TRAJECTORY.

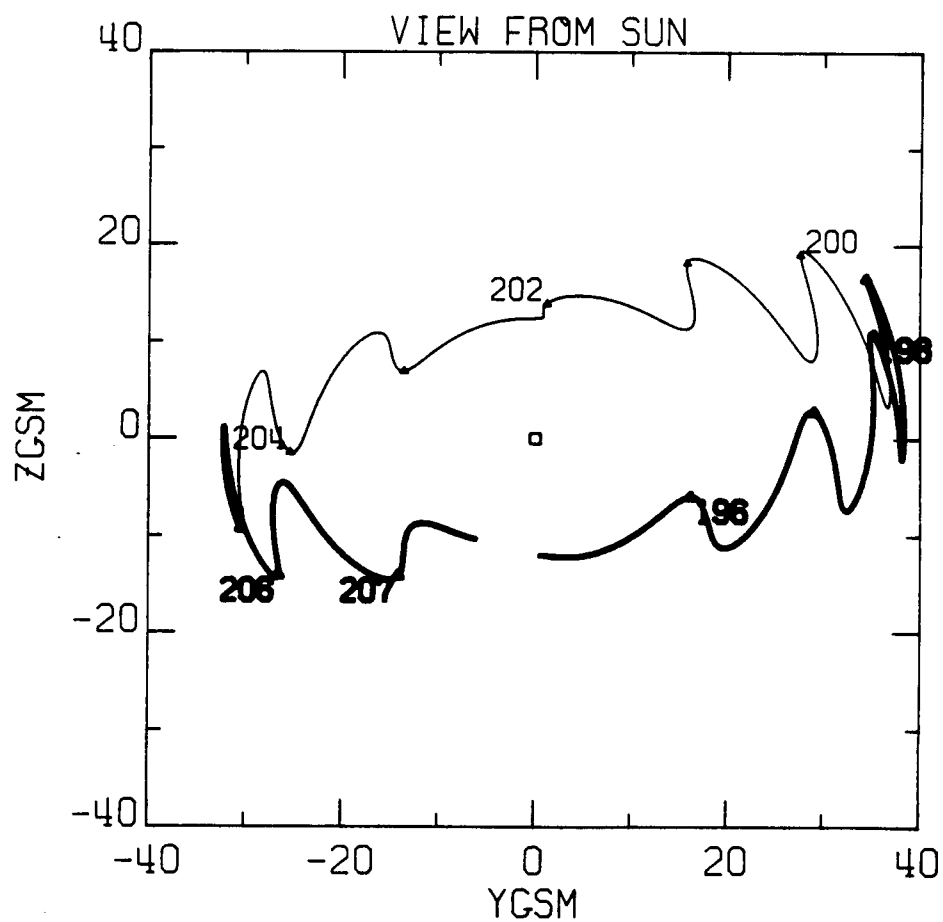
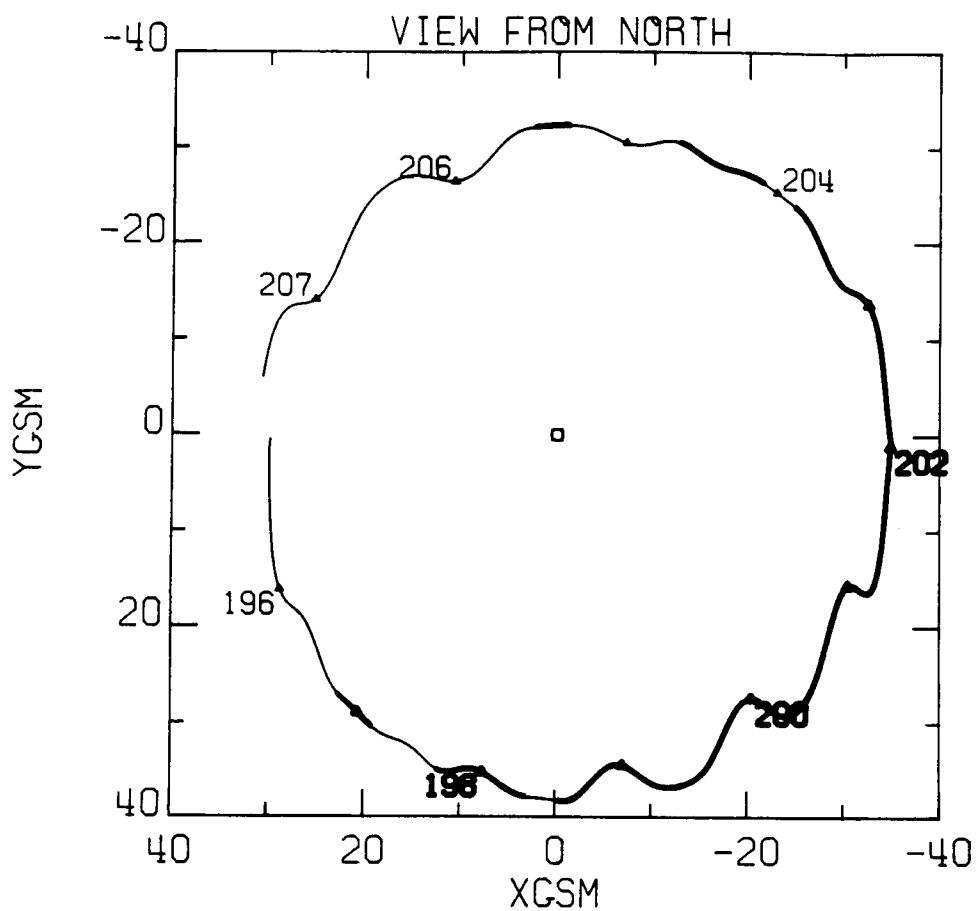
ASCENDING NODE 54

FROM JUL 2 TO JUL 14 1974

DAYS 183 THRU 195



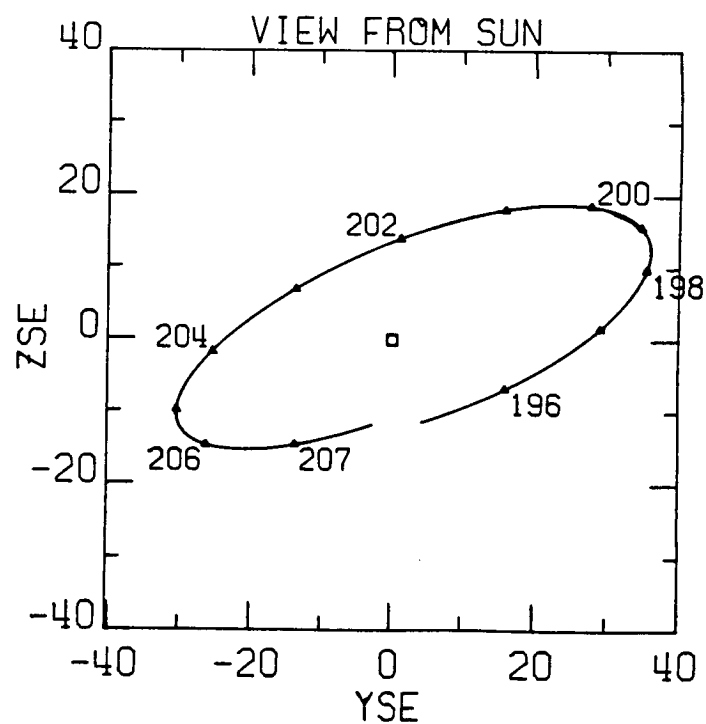
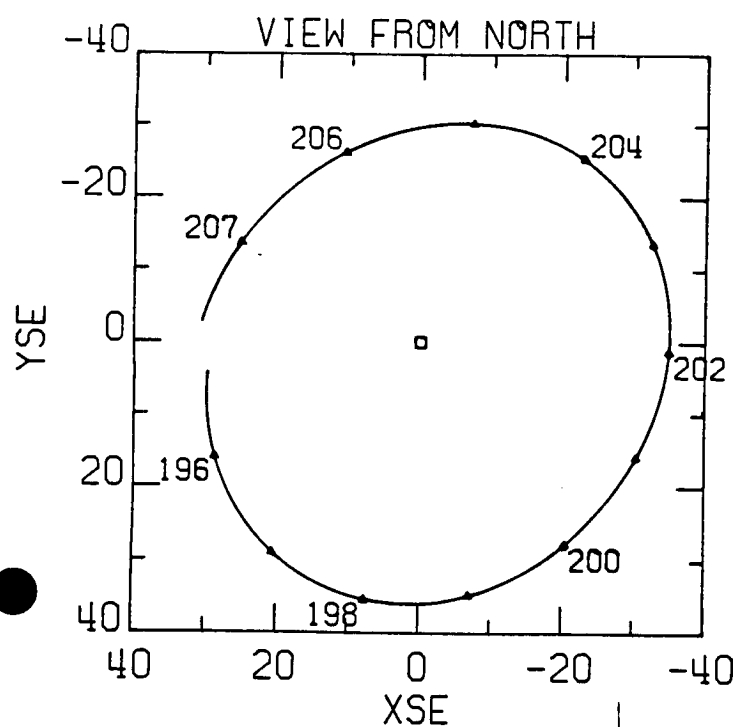
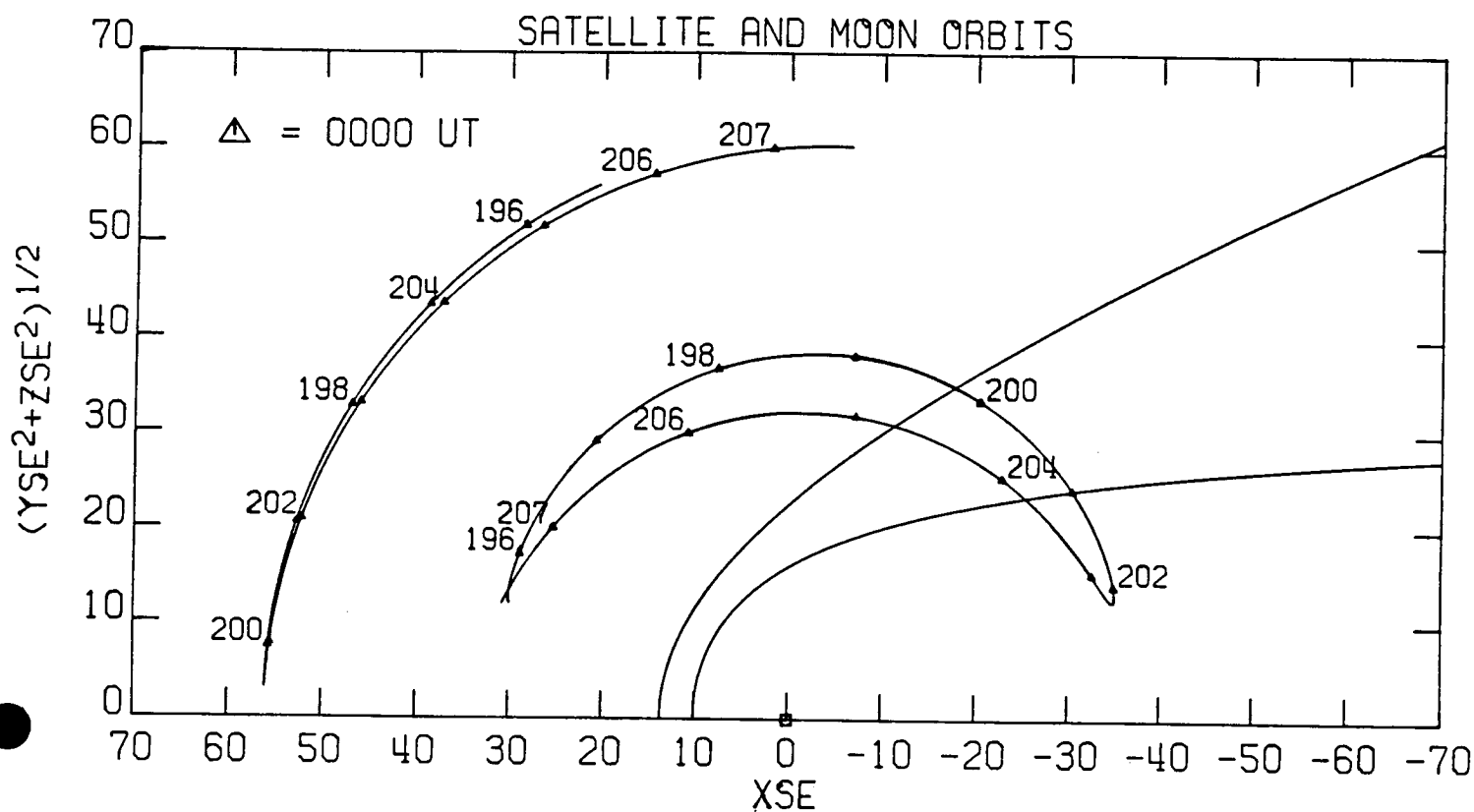
IMP 7 FROM JUL 14 TO JUL 26 1974



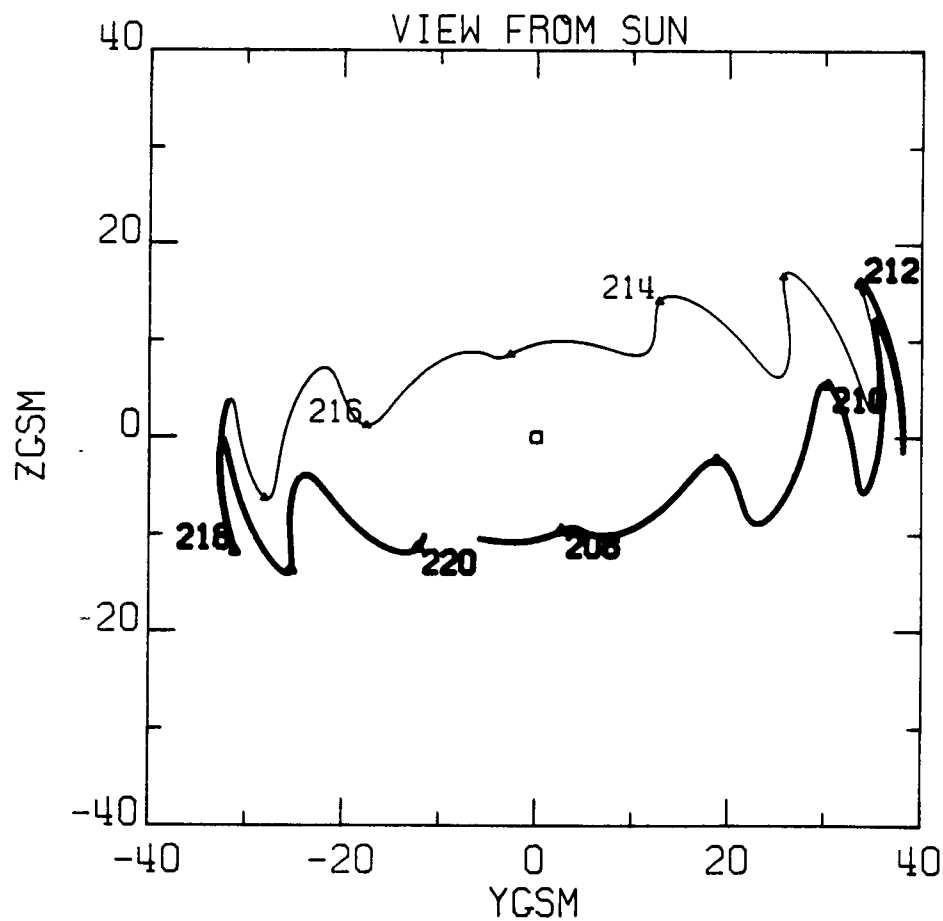
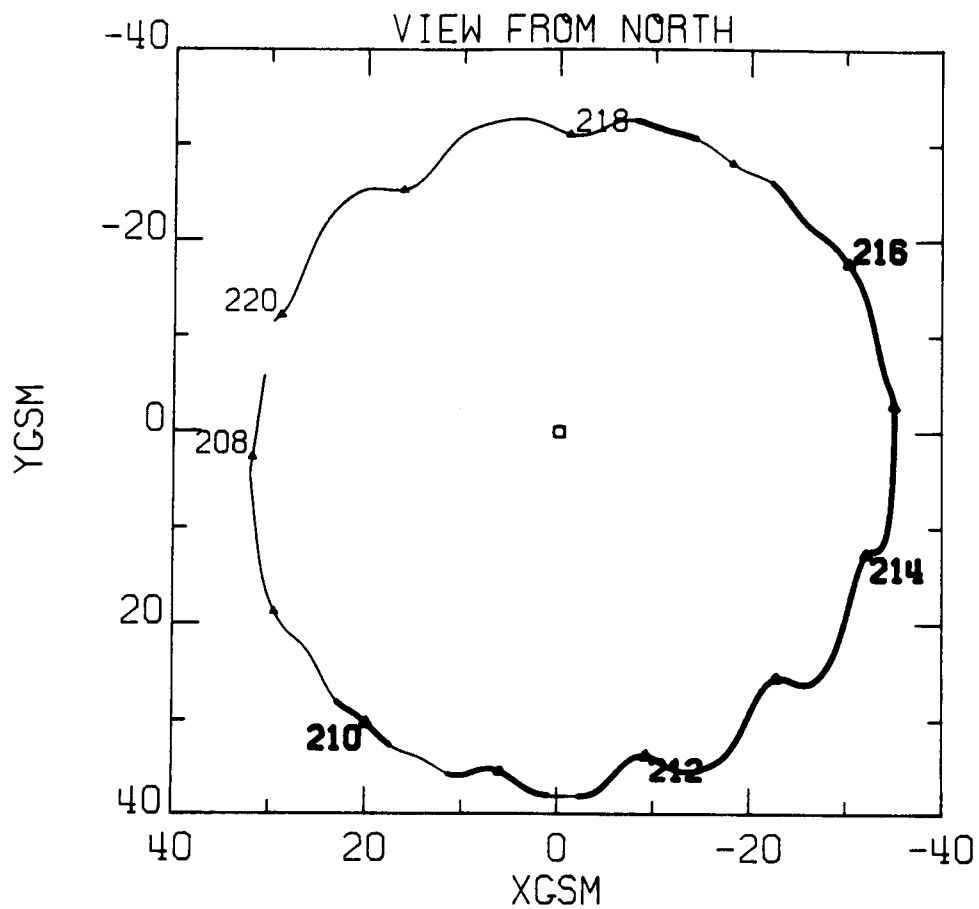
IMP 7 TRAJECTORY. ASCENDING NODE 55

FROM JUL 14 TO JUL 26 1974

DAYS 195 THRU 207



IMP 7 FROM JUL 26 TO AUG 8 1974



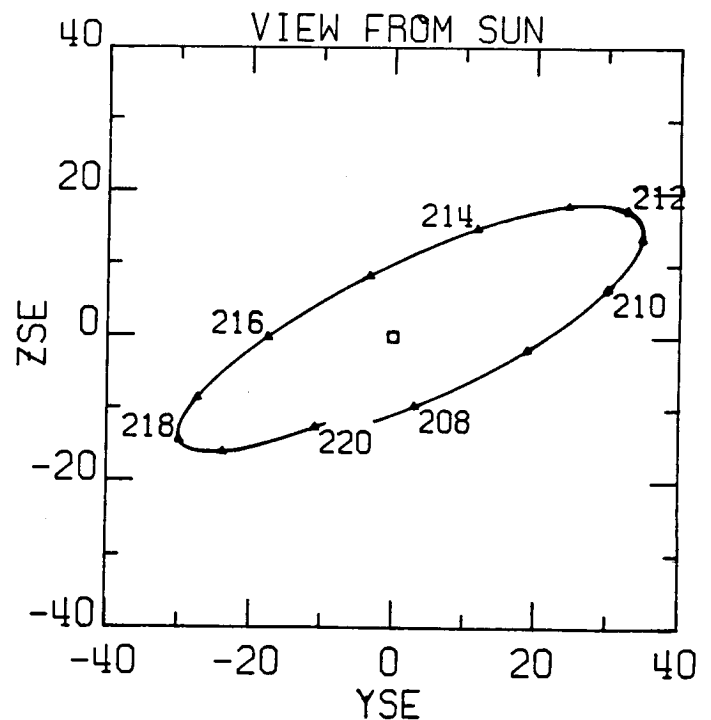
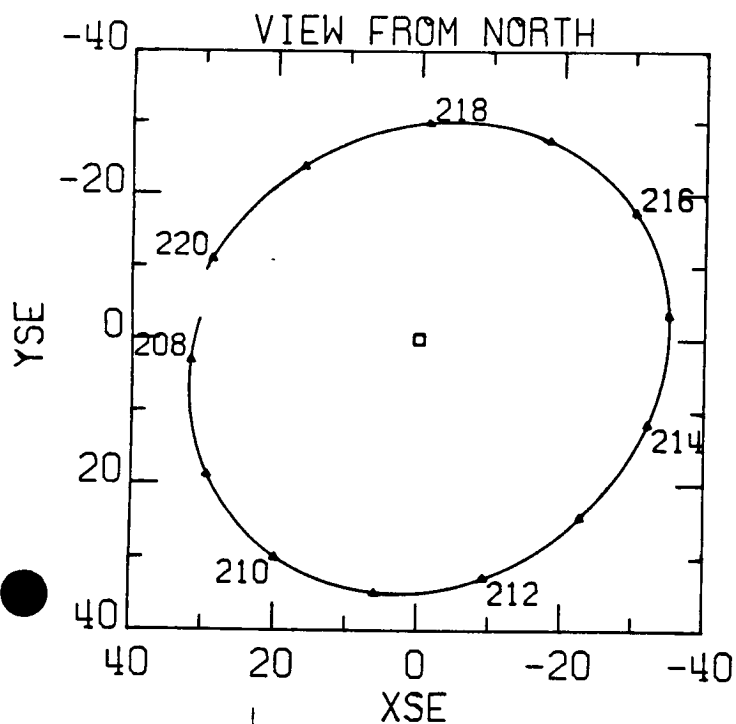
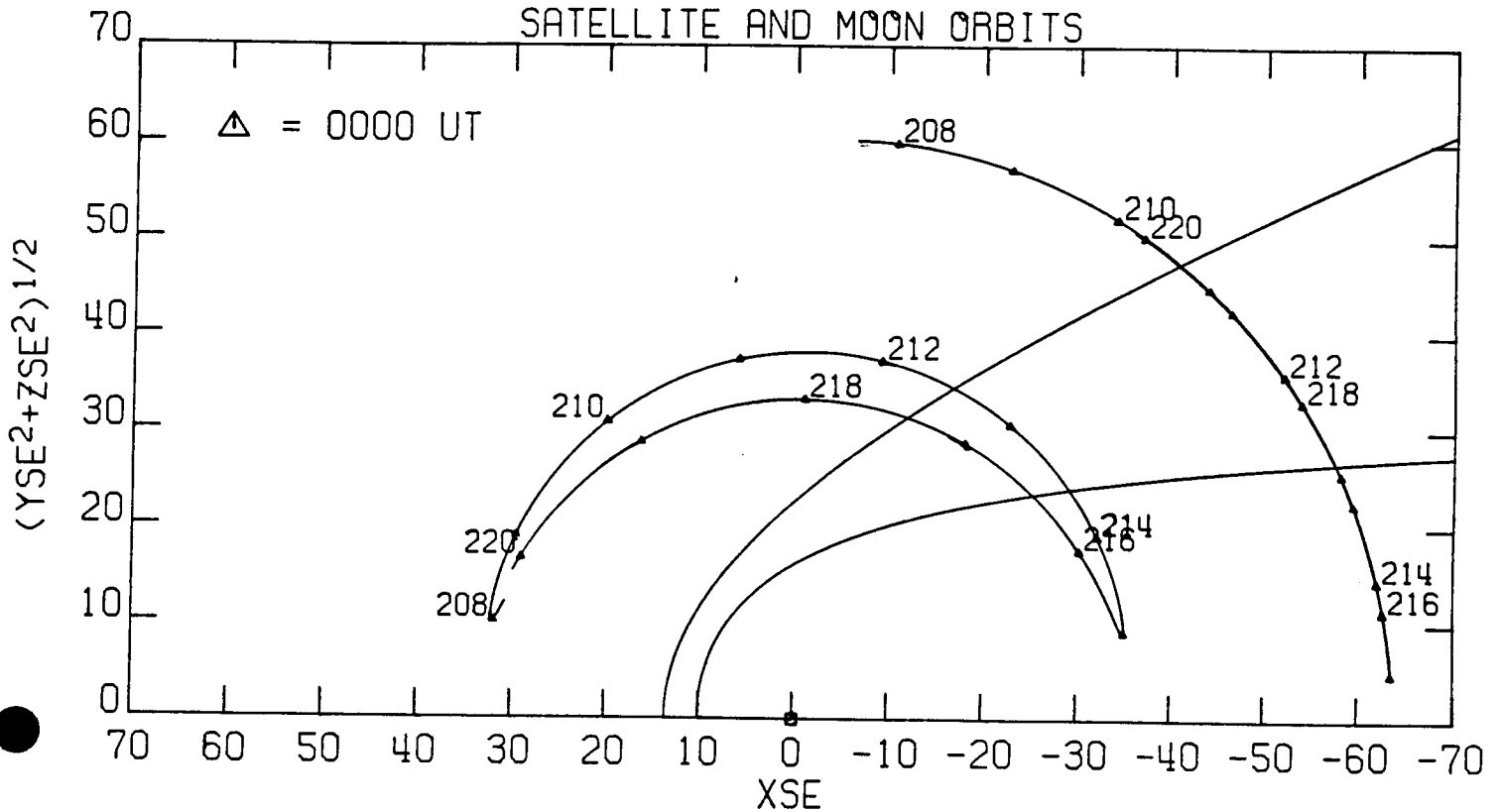
IMP 7 TRAJECTORY.

ASCENDING NODE 56

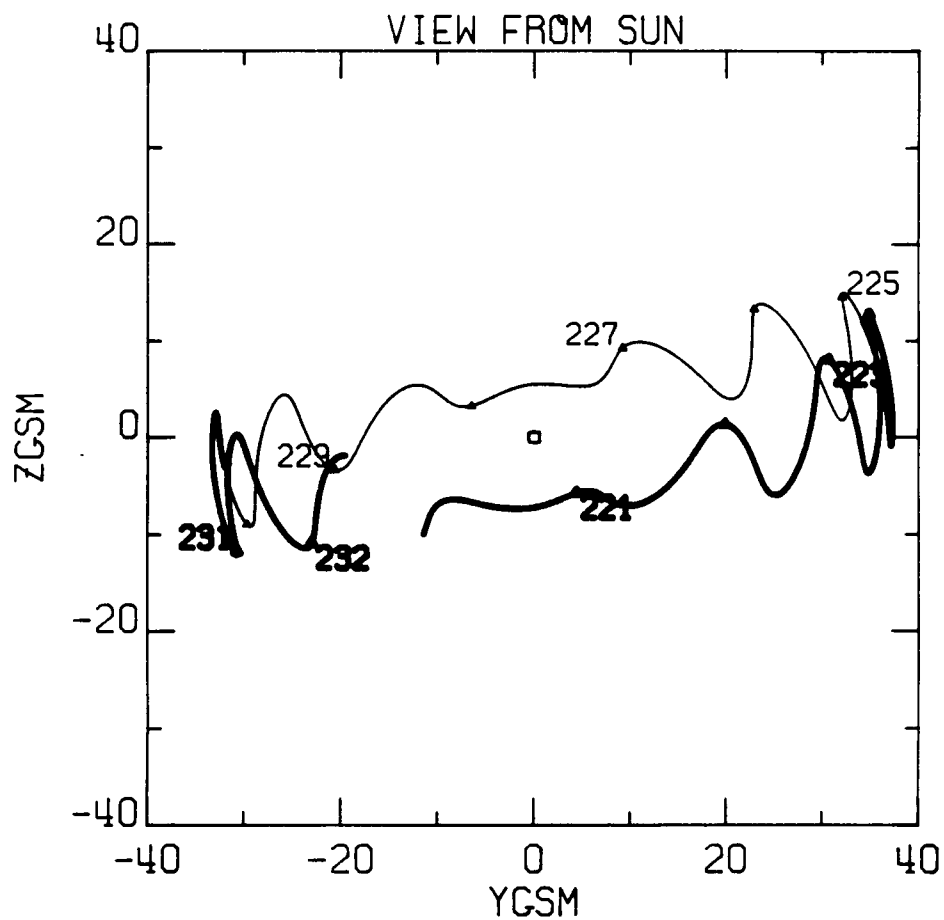
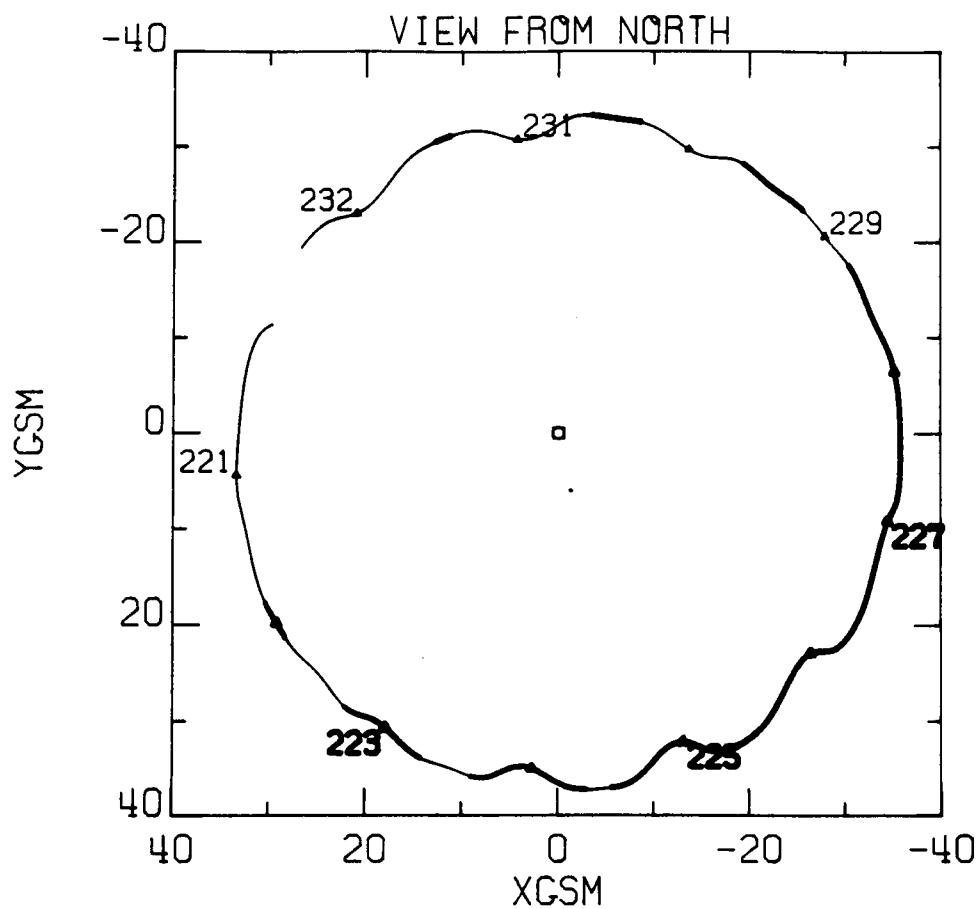
FROM JUL 26 TO AUG 8 1974

DAYS 207 THRU 220

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IMP 7 FROM AUG 8 TO AUG 20 1974

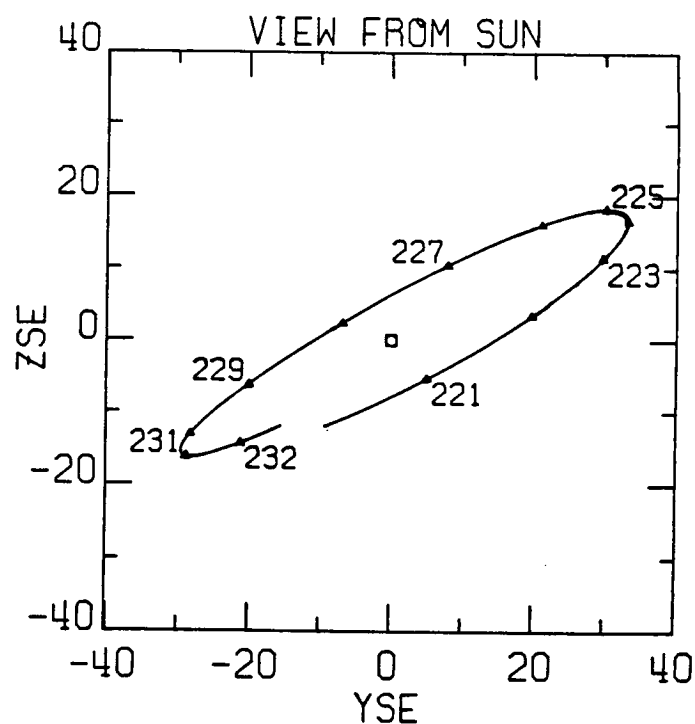
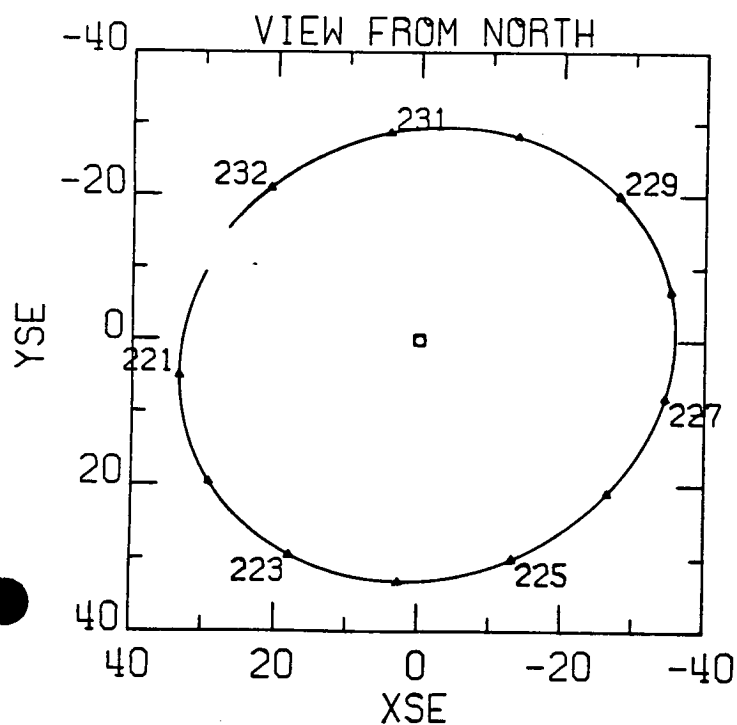
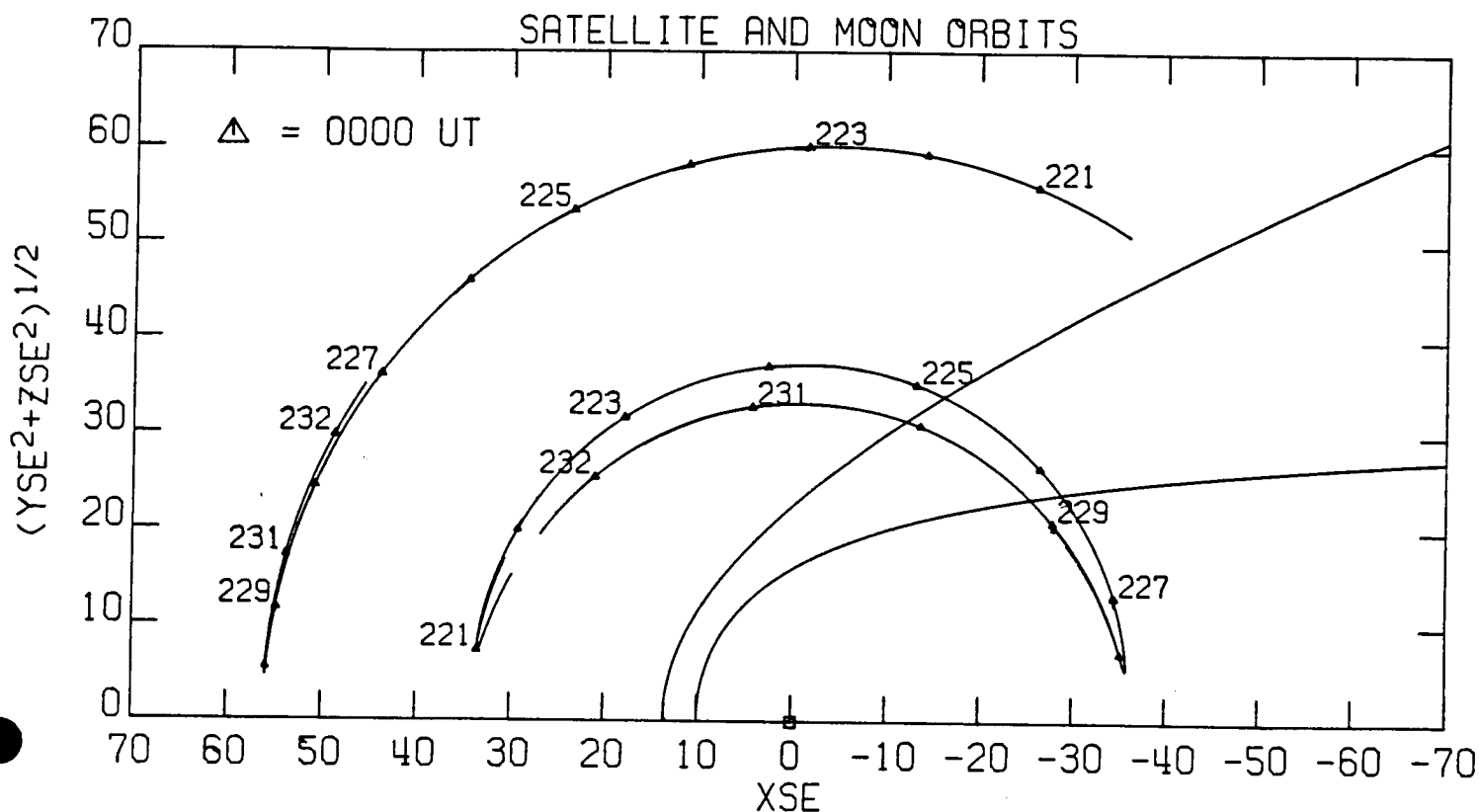


IMP 7 TRAJECTORY.

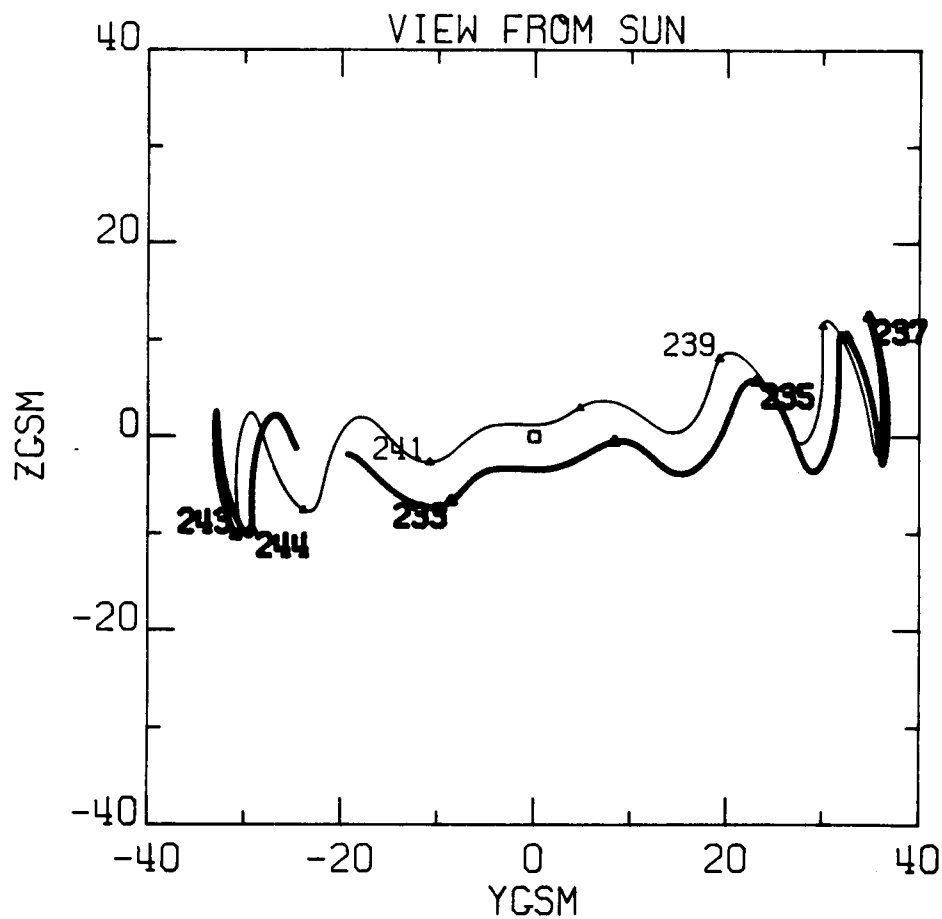
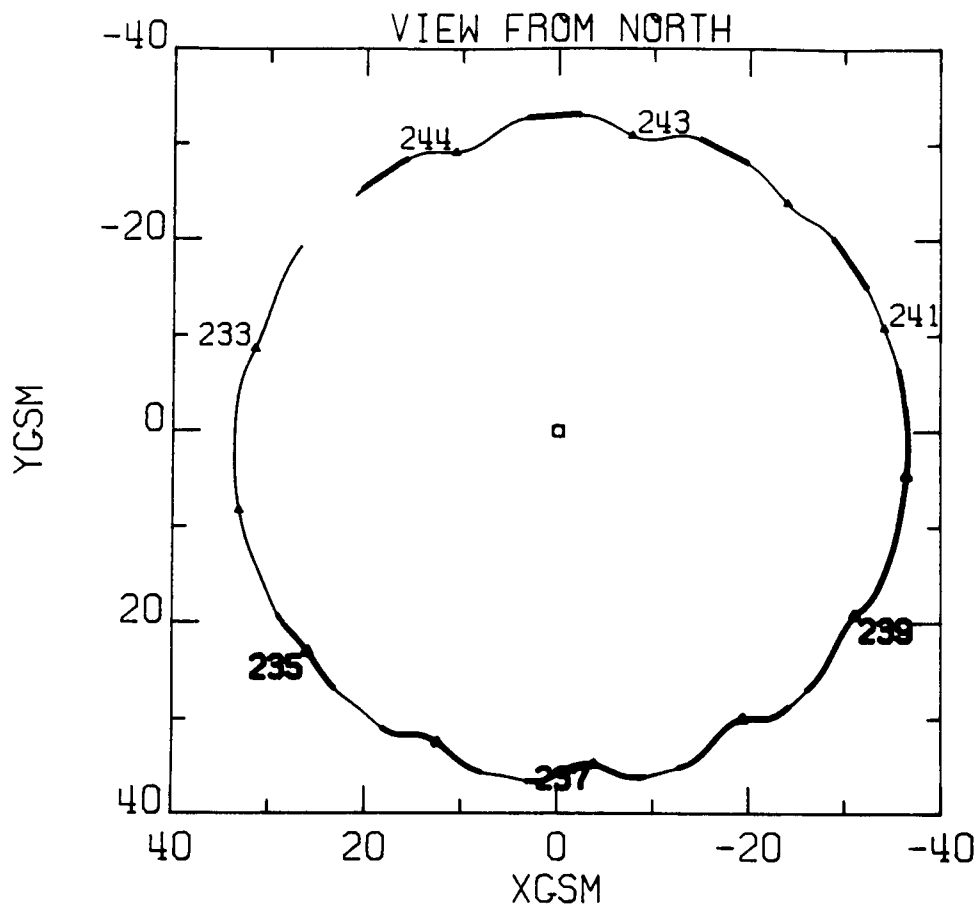
ASCENDING NODE 57

FROM AUG 8 TO AUG 20 1974

DAYS 220 THRU 232



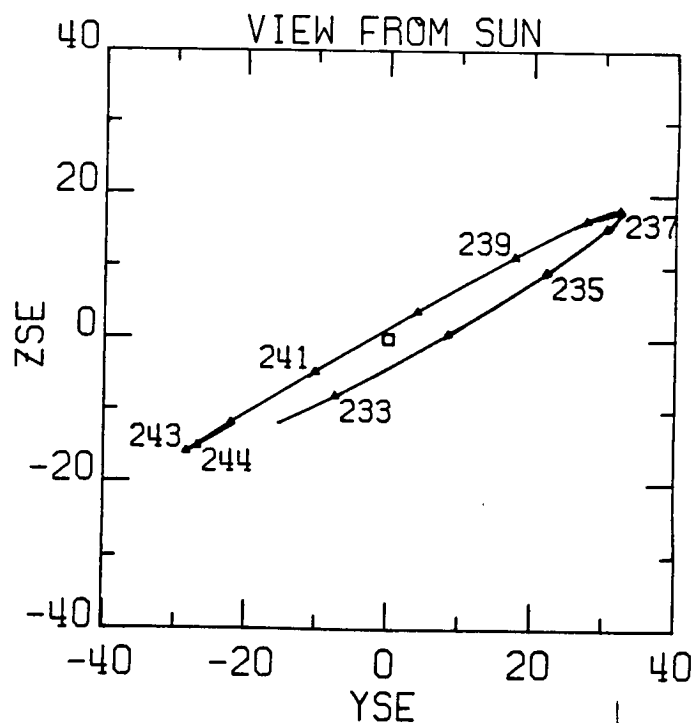
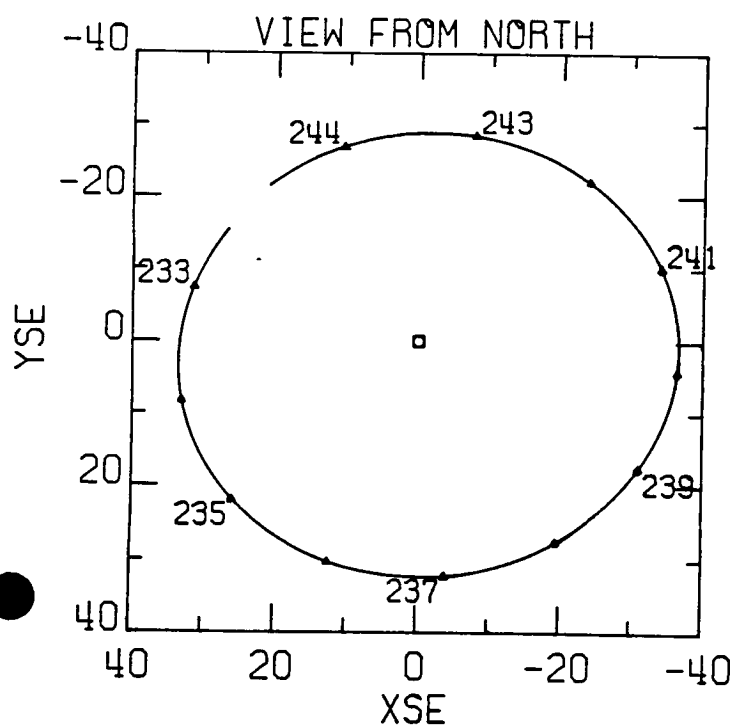
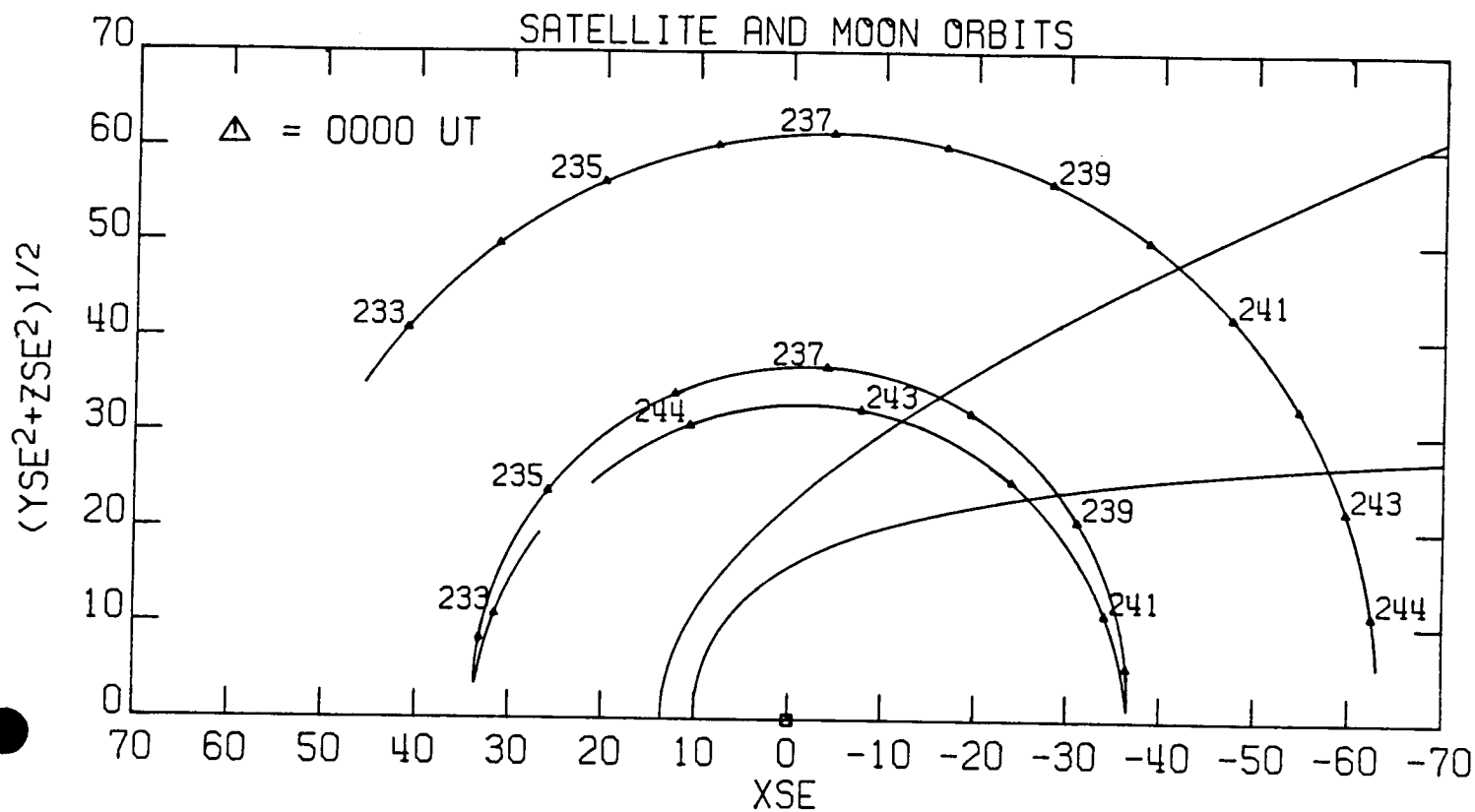
IMP 7 FROM AUG 20 TO SEP 1 1974



IMP 7 TRAJECTORY. ASCENDING NODE 58

FROM AUG 20 TO SEP 1 1974

DAYS 232 THRU 244



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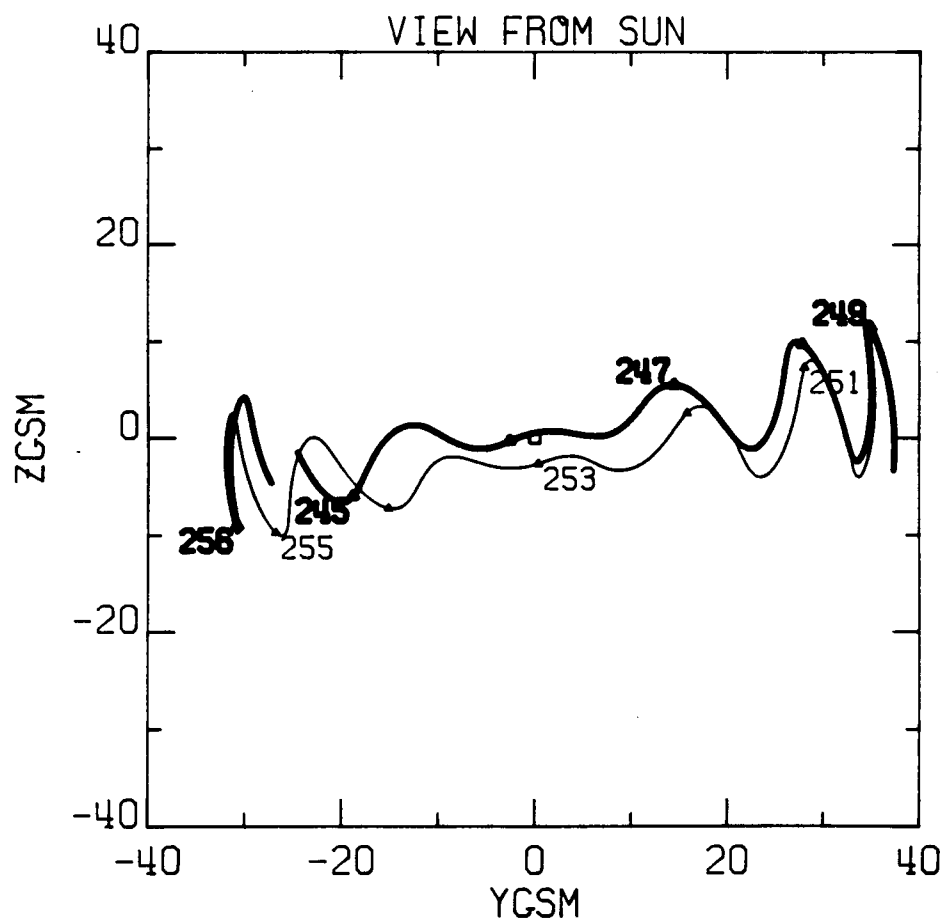
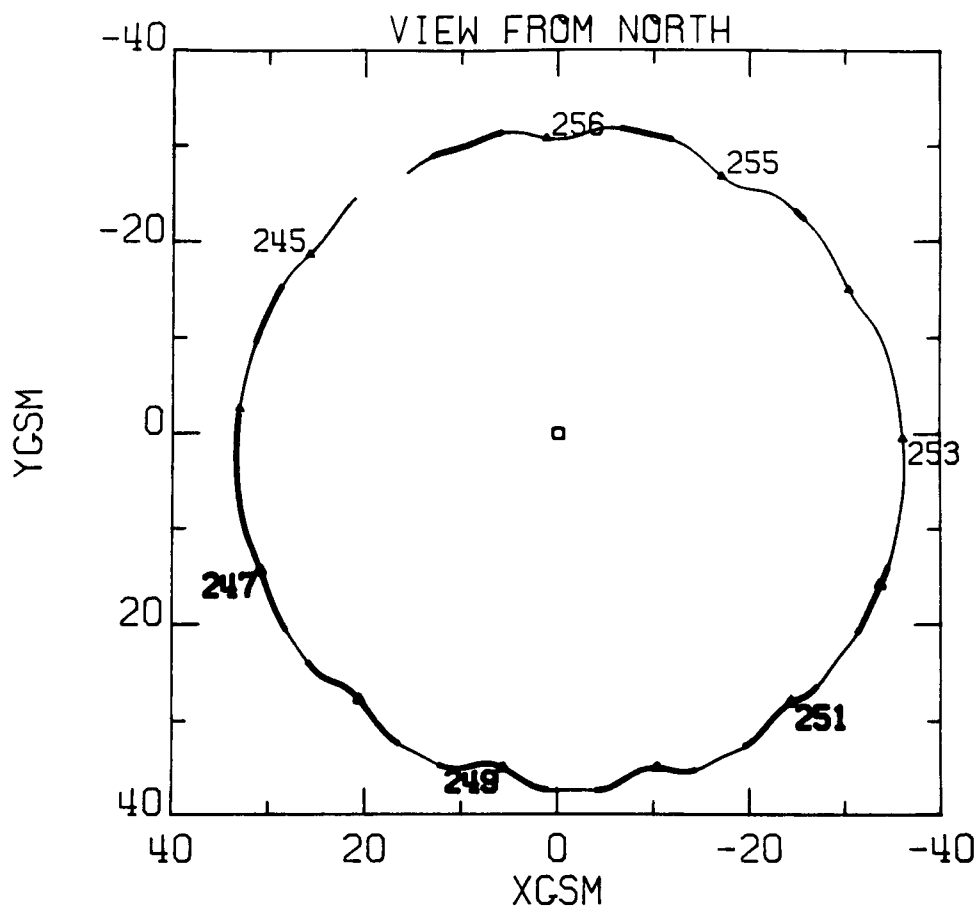
MR/11/88

Source: Research

Center for

M.I.T.

IMP 7 FROM SEP 1 TO SEP 13 1974

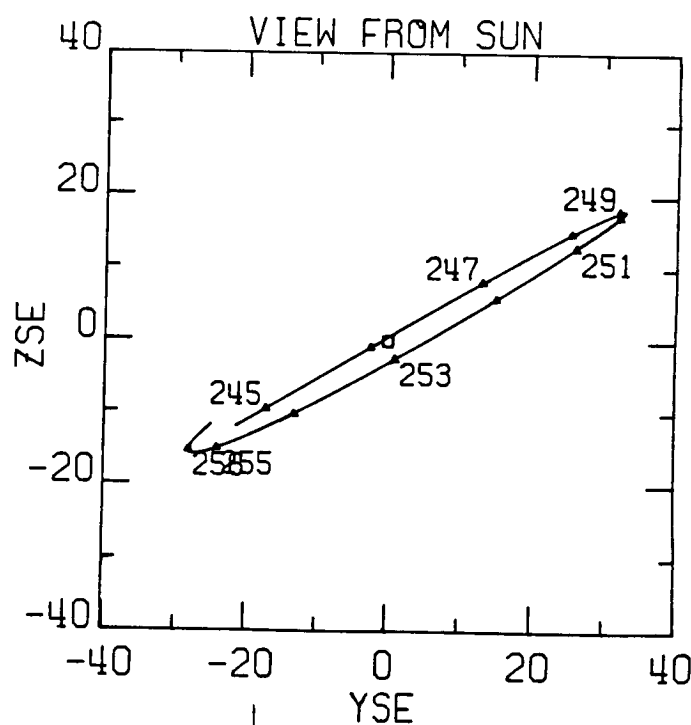
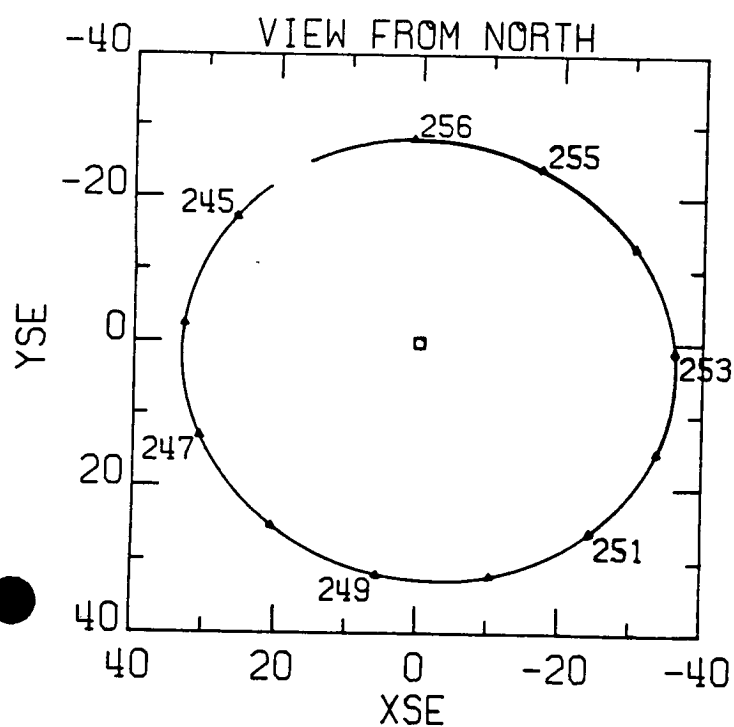
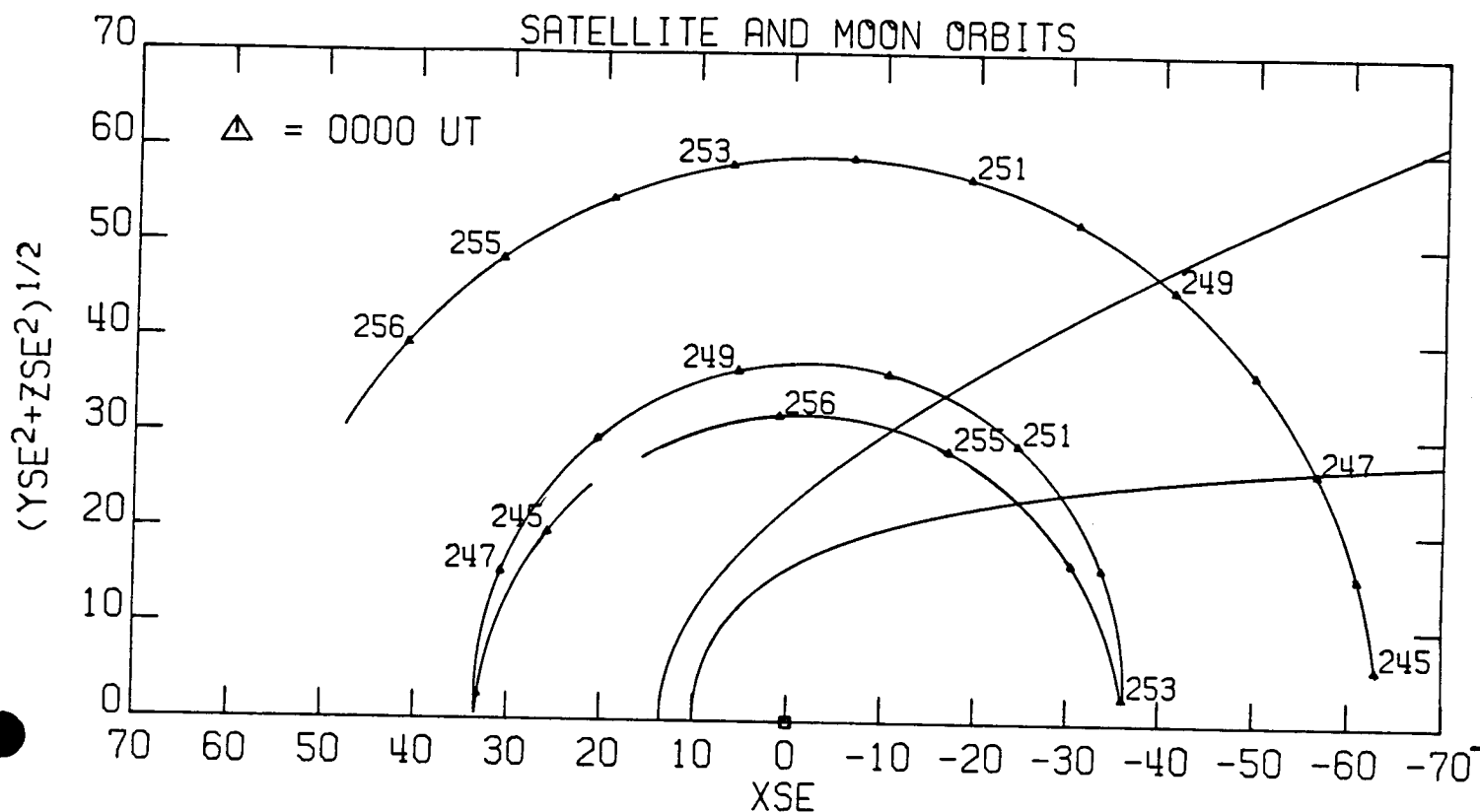


IMP 7 TRAJECTORY.

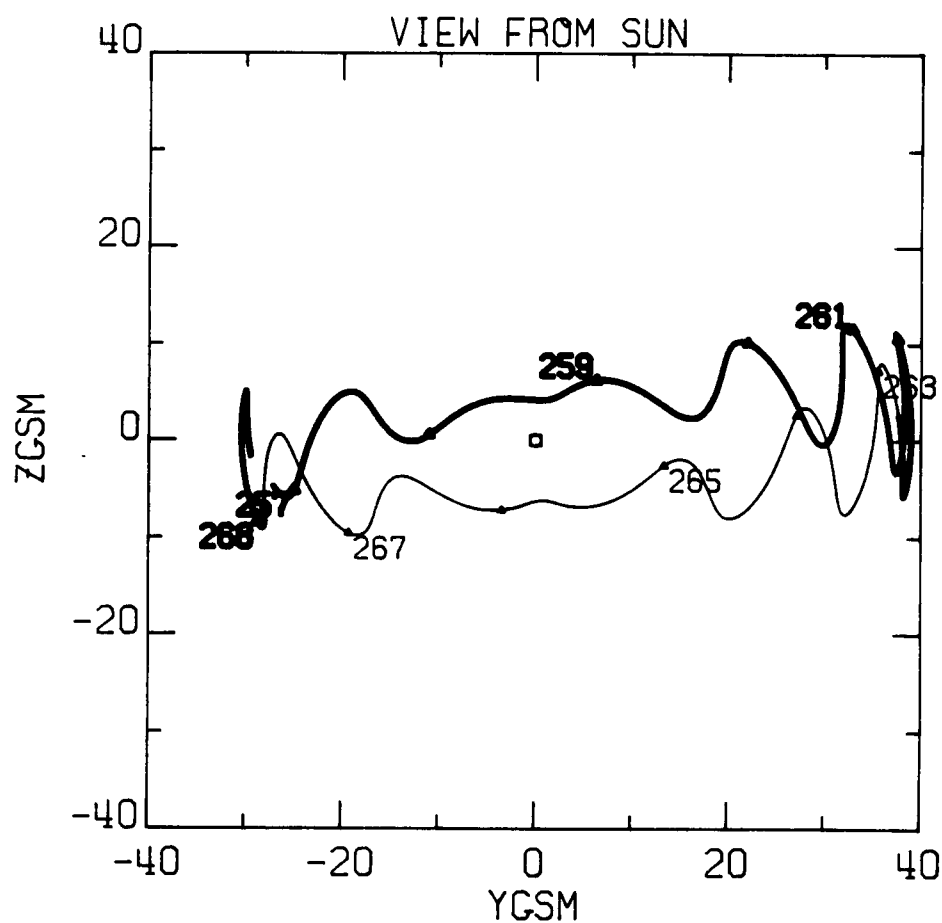
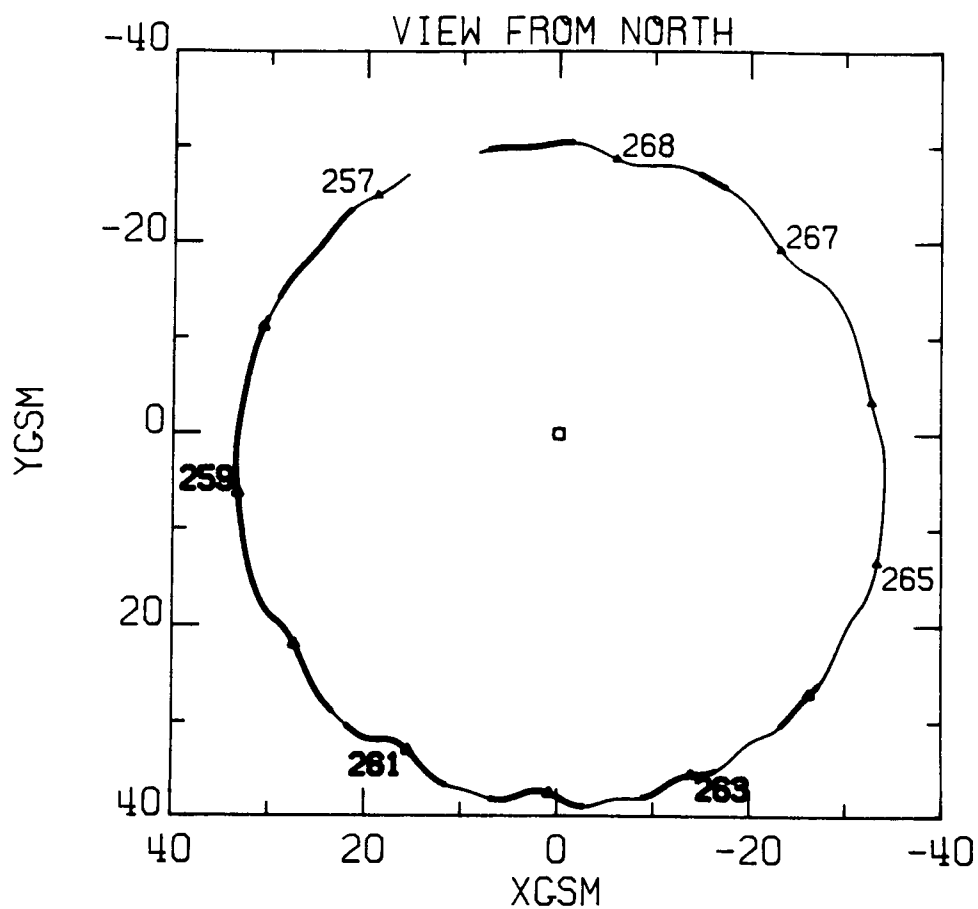
ASCENDING NODE 59

FROM SEP 1 TO SEP 13 1974

DAYS 244 THRU 256

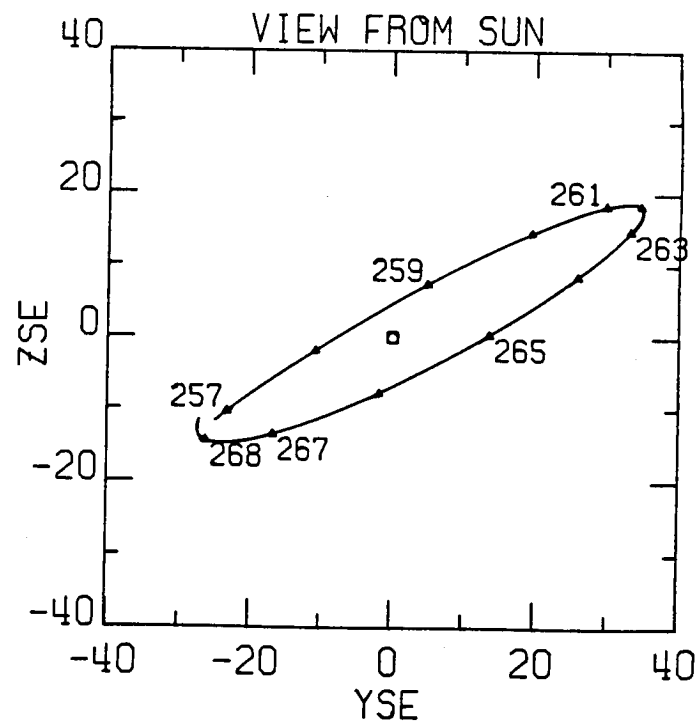
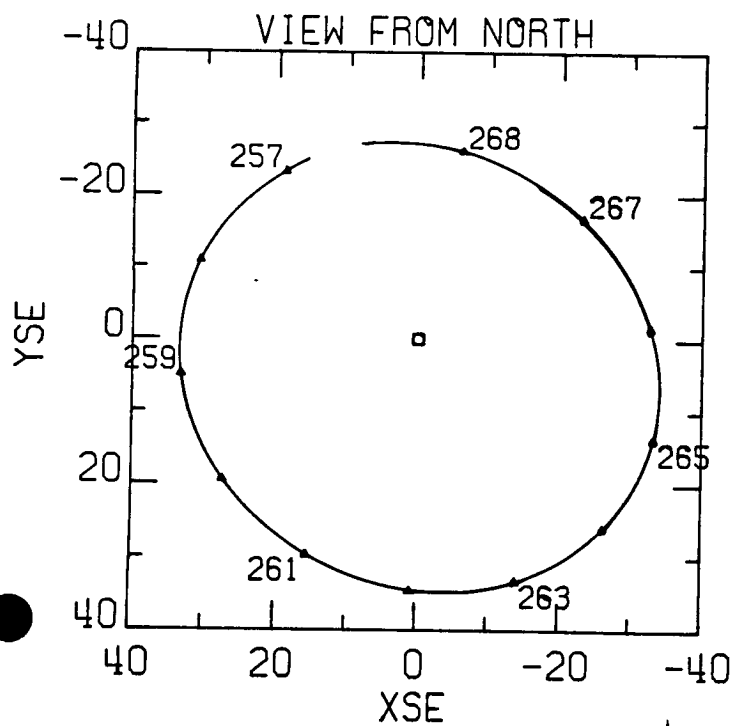
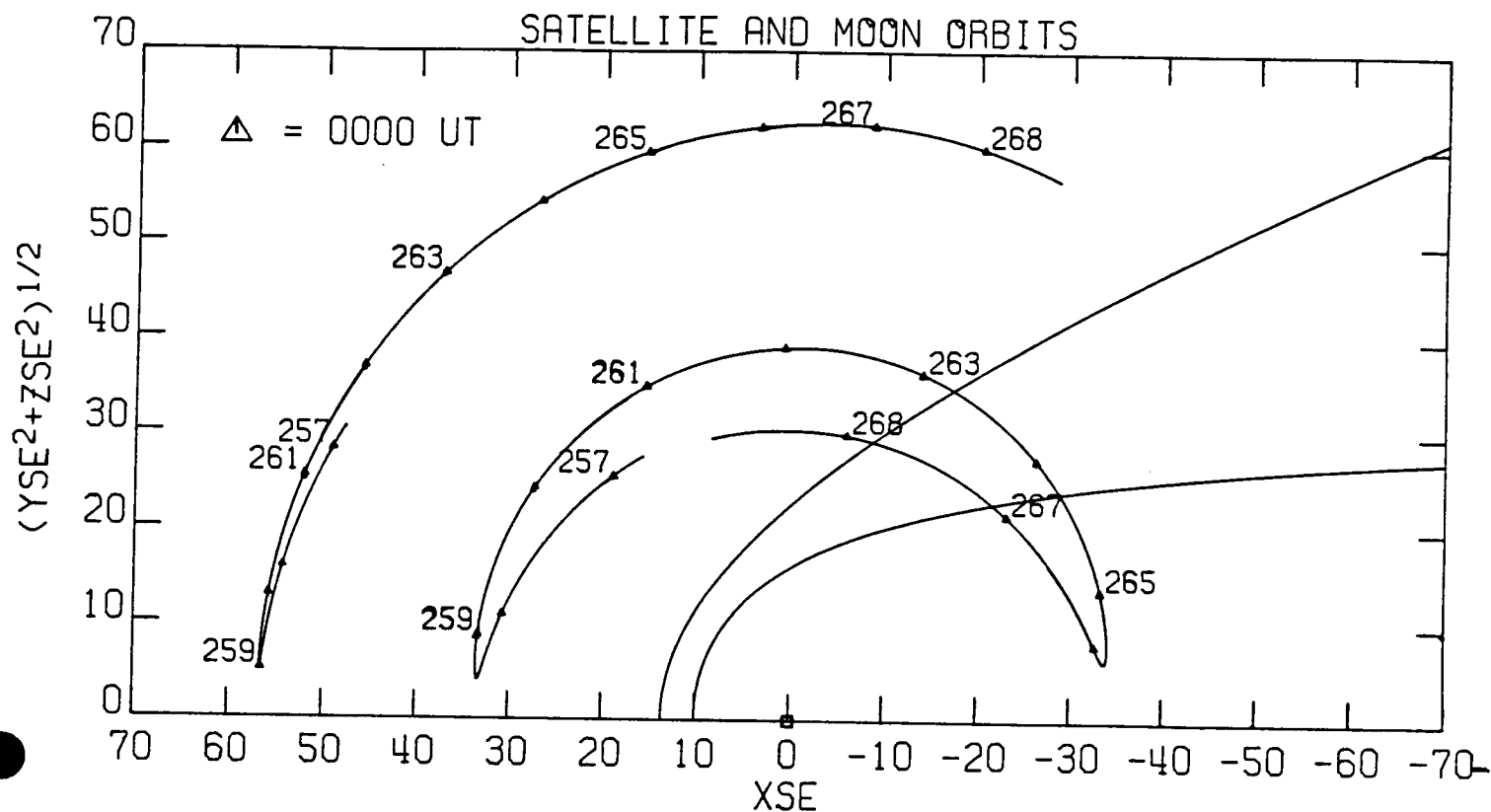


IMP 7 FROM SEP 13 TO SEP 25 1974

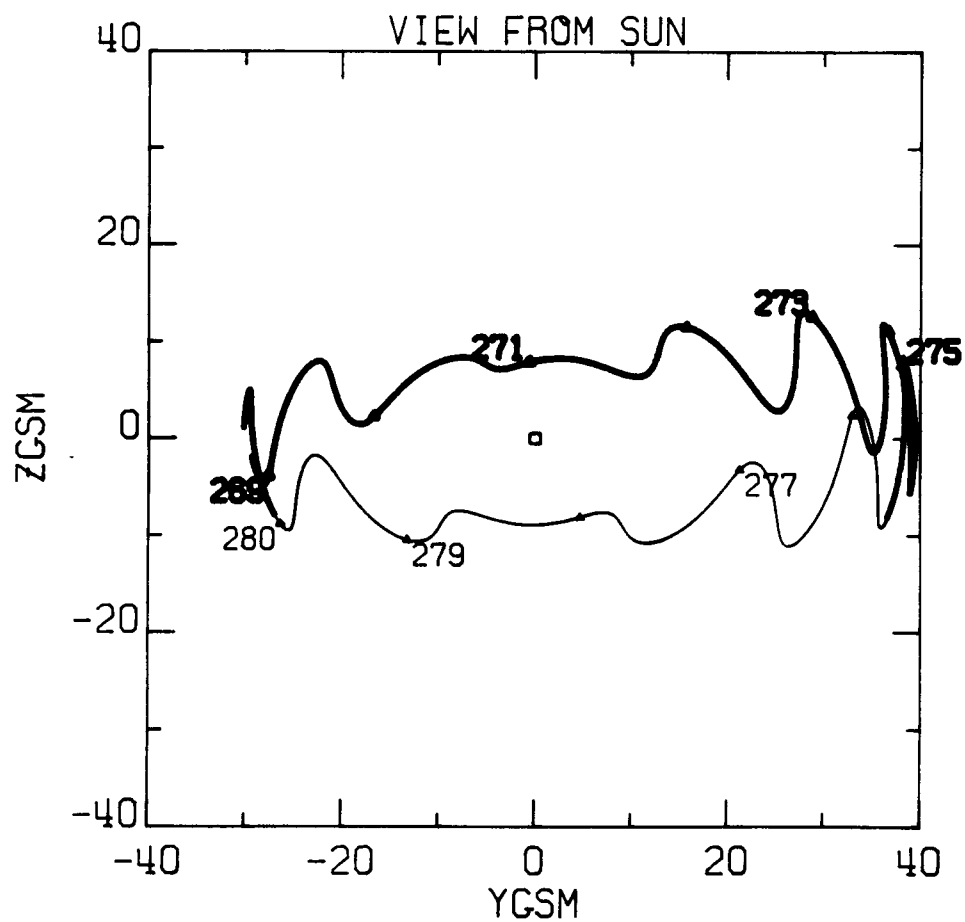
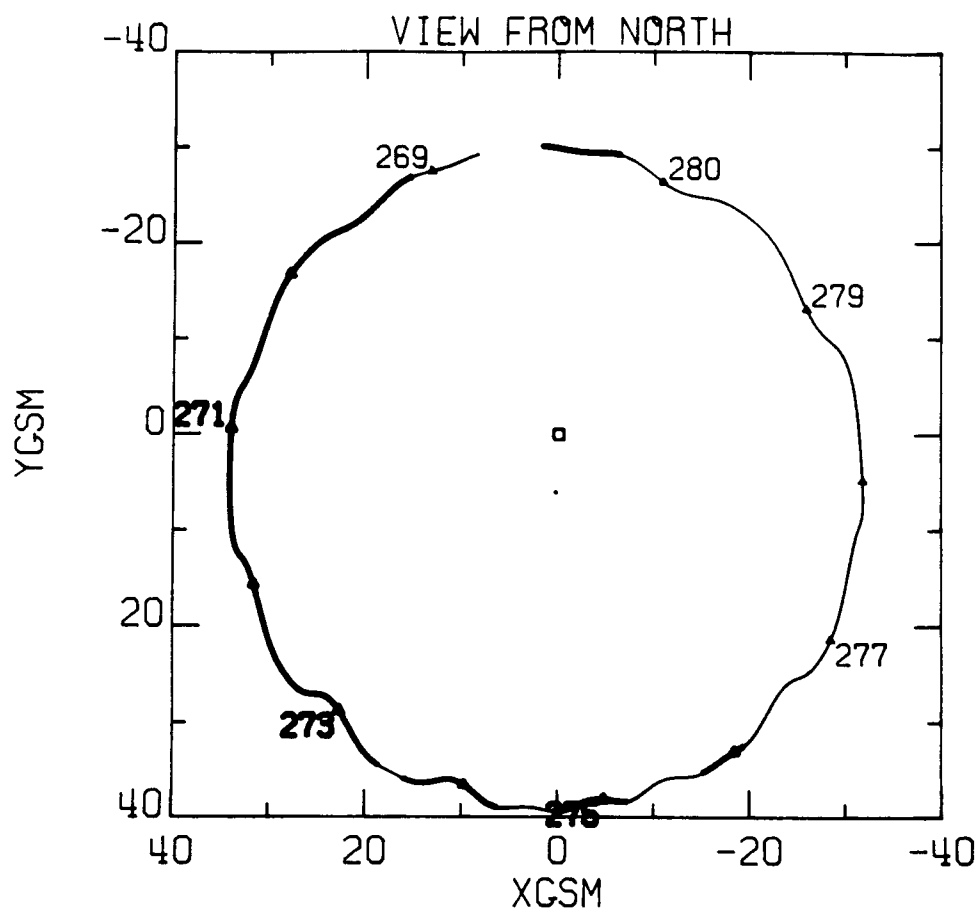


FROM SEP 13 TO SEP 25 1974

DAYS 256 THRU 268



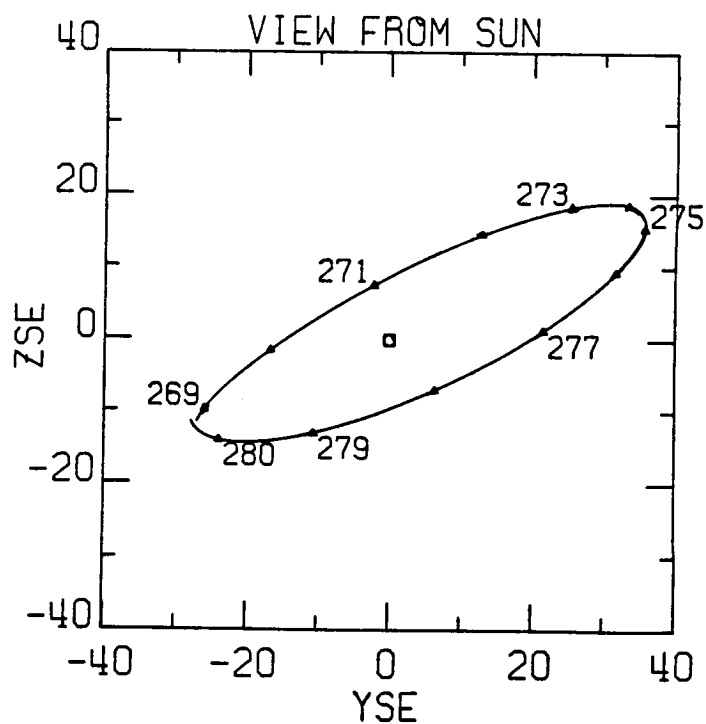
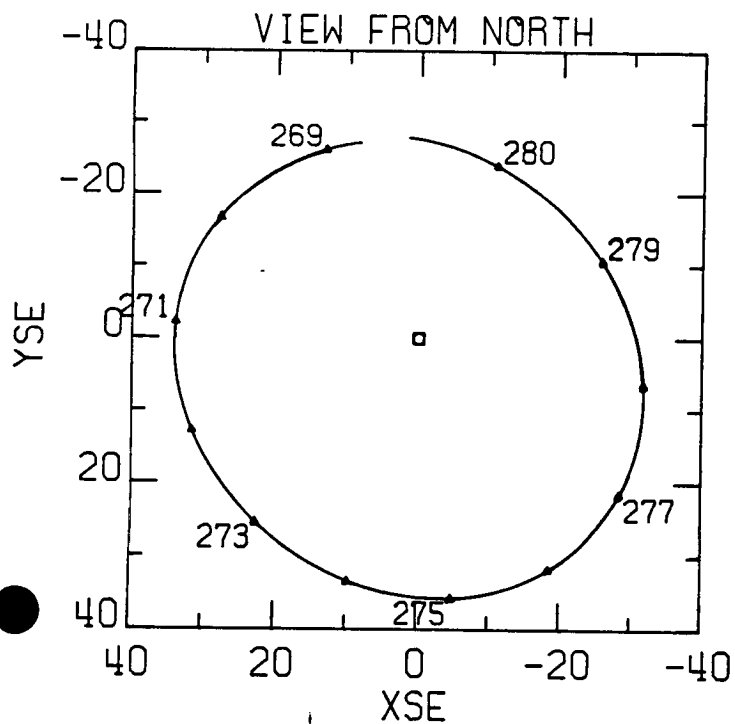
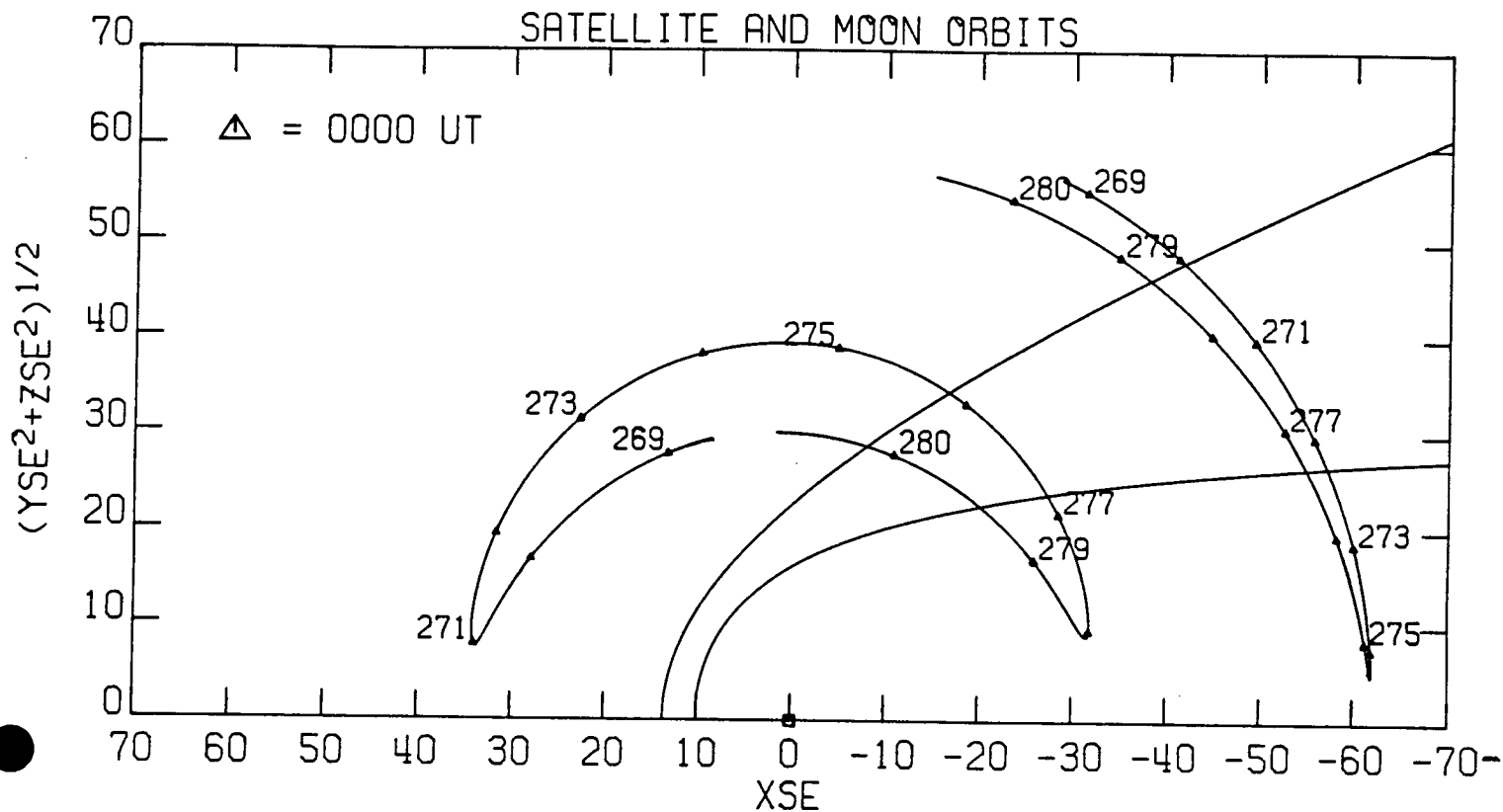
IMP 7 FROM SEP 25 TO OCT 7 1974



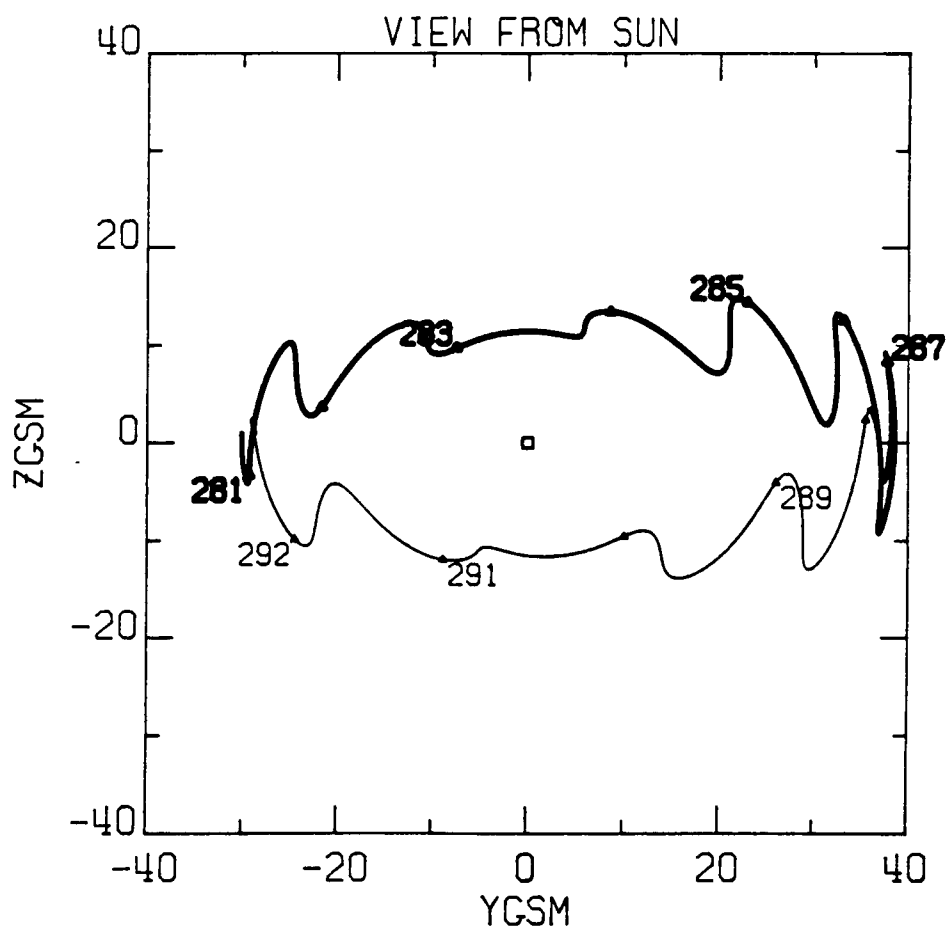
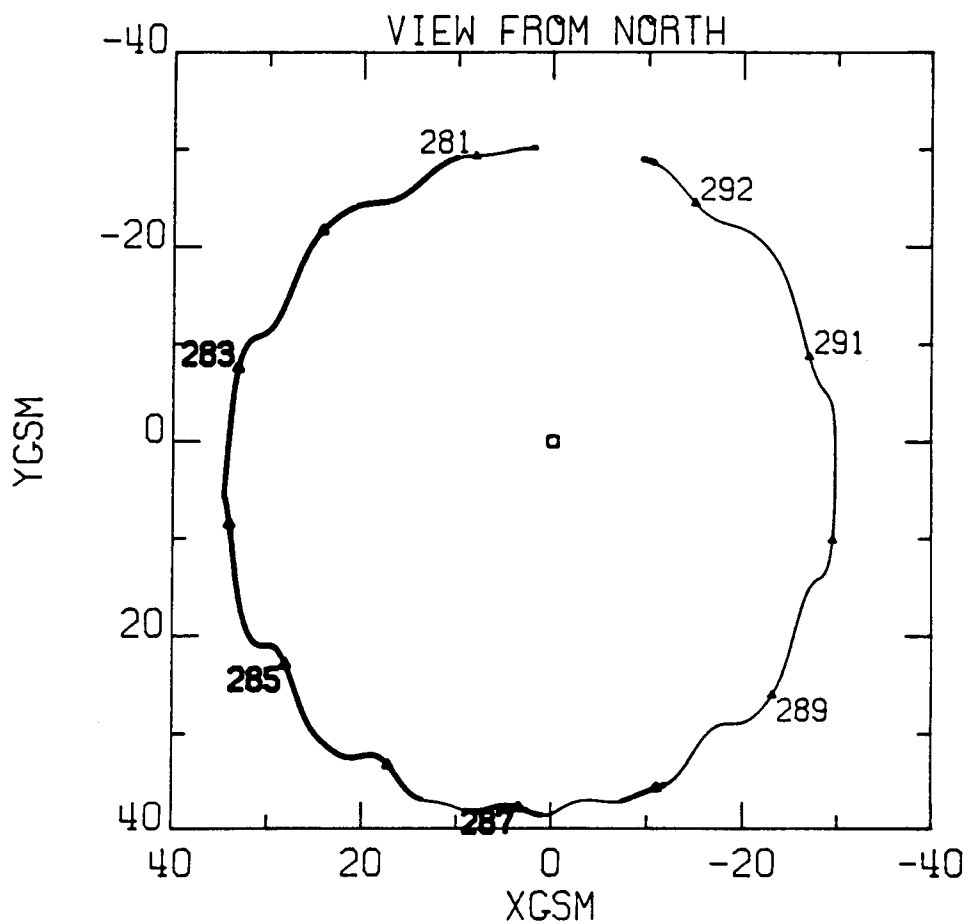
IMP 7 TRAJECTORY. ASCENDING NODE 61

FROM SEP 25 TO OCT 7 1974

DAYS 268 THRU 280



IMP 7 FROM OCT 7 TO OCT 19 1974

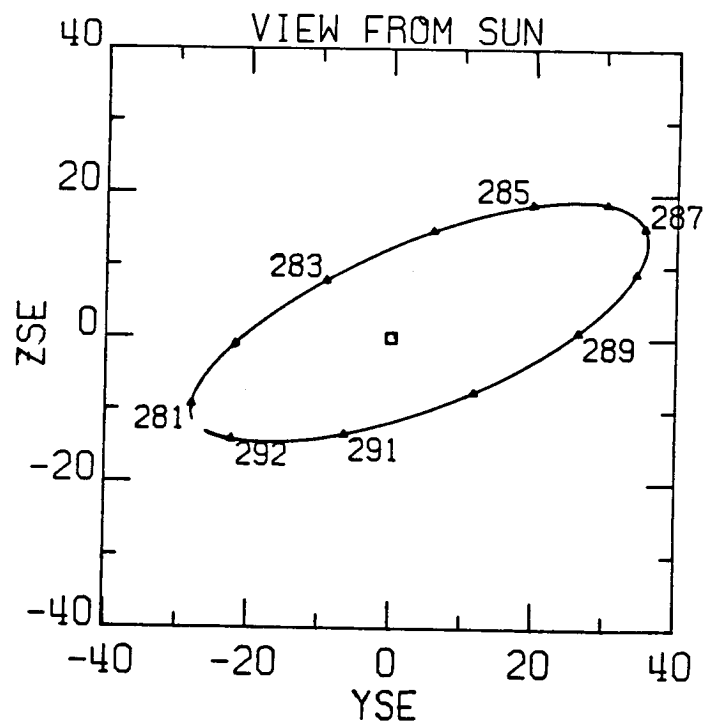
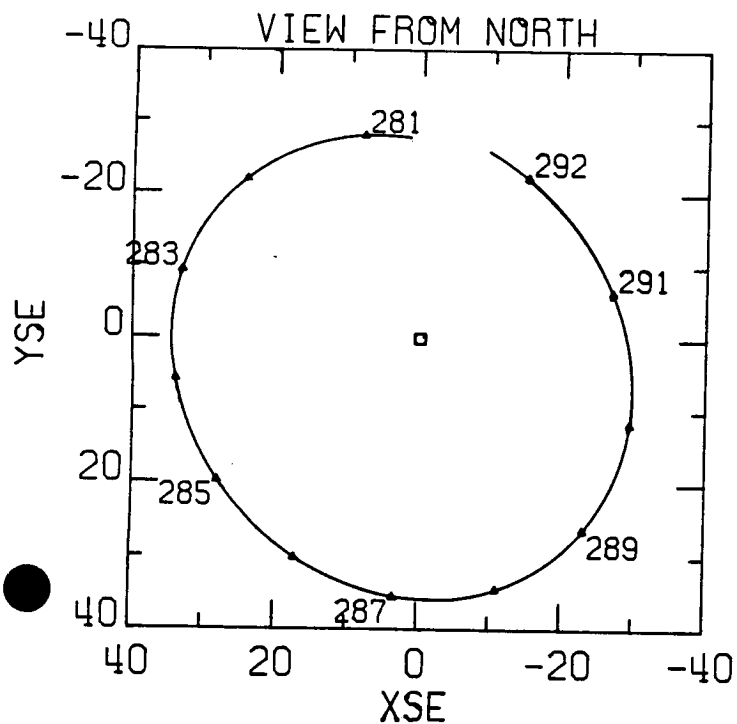
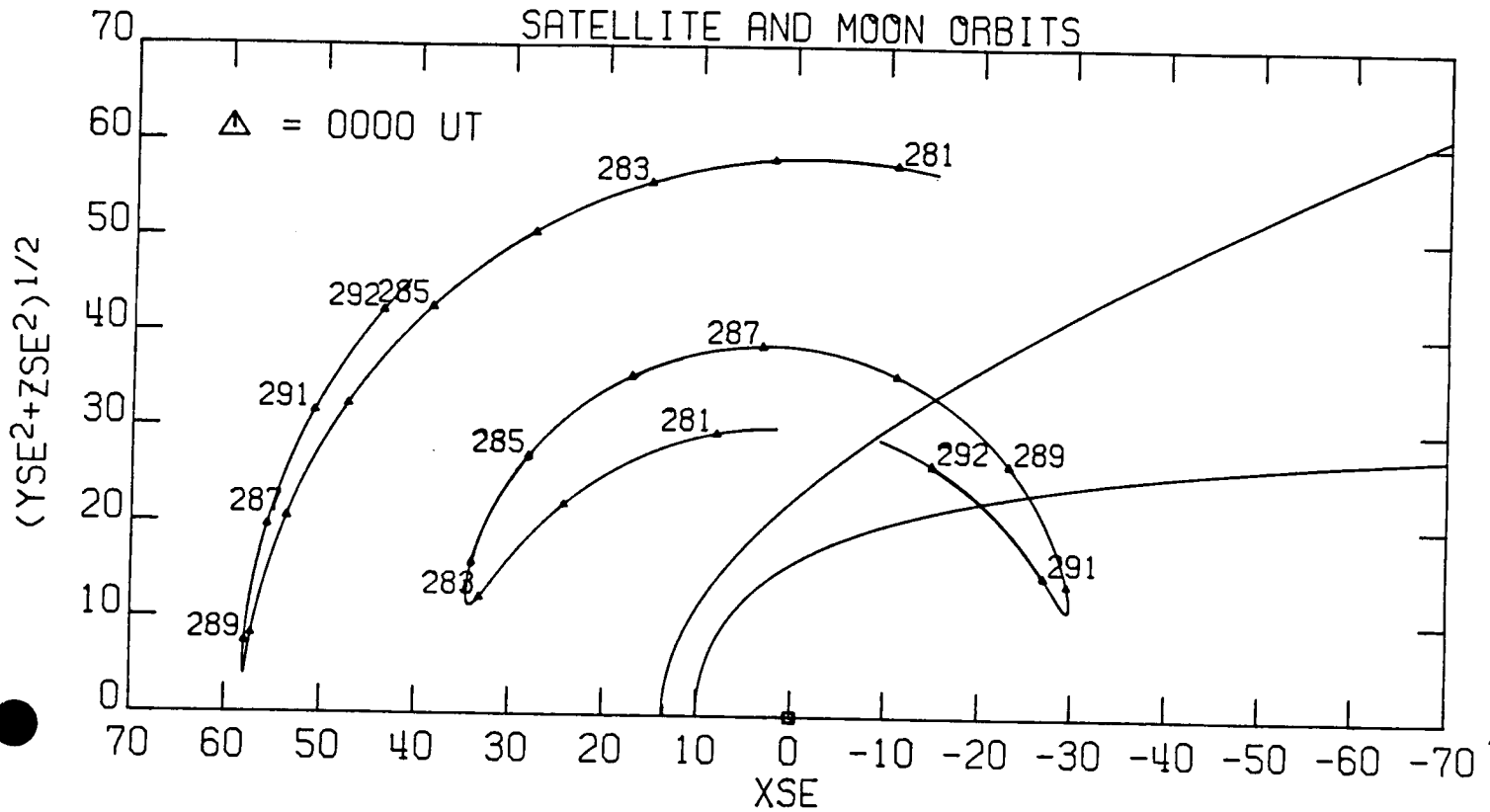


IMP 7 TRAJECTORY.

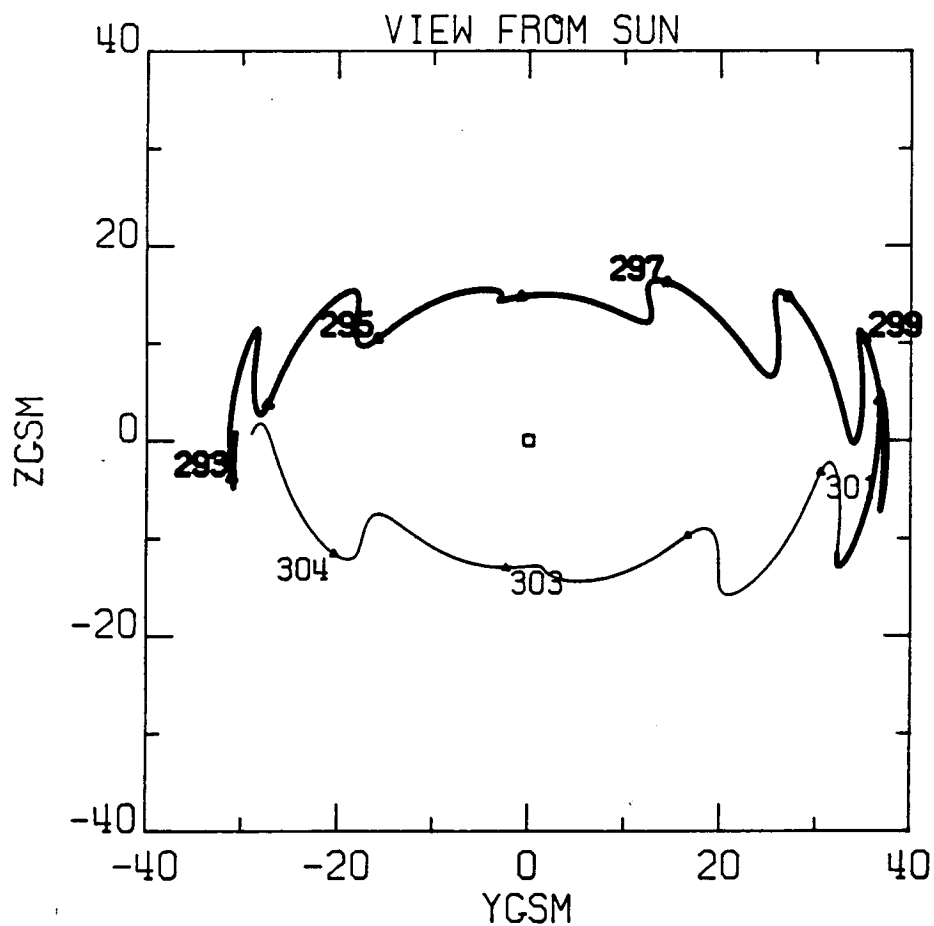
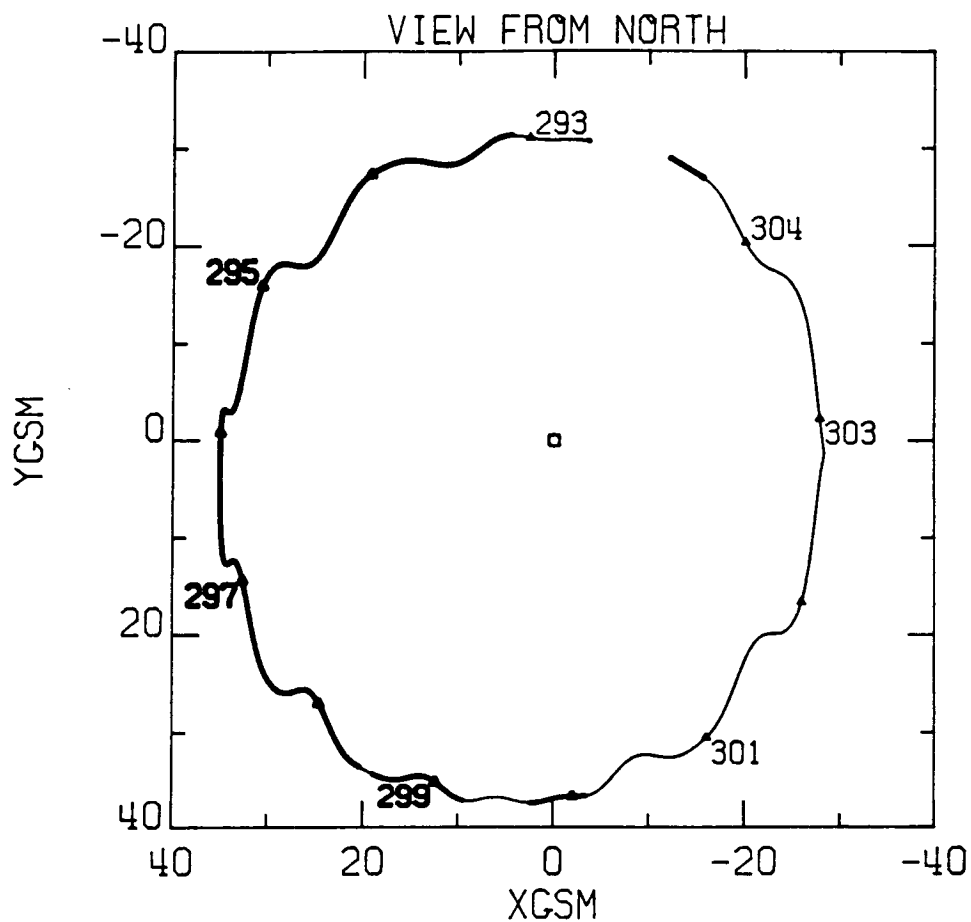
ASCENDING NODE 62

FROM OCT 7 TO OCT 19 1974

DAYS 280 THRU 292



IMP 7 FROM OCT 19 TO OCT 31 1974

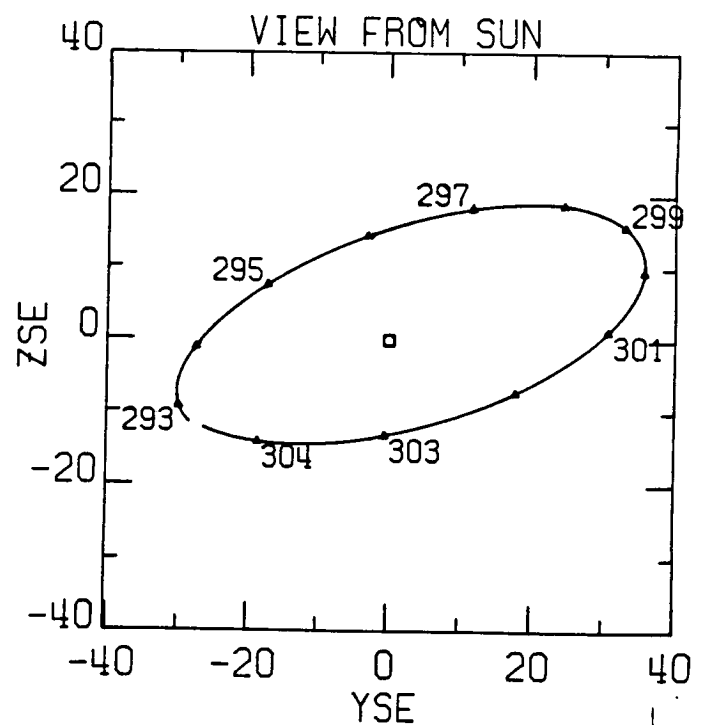
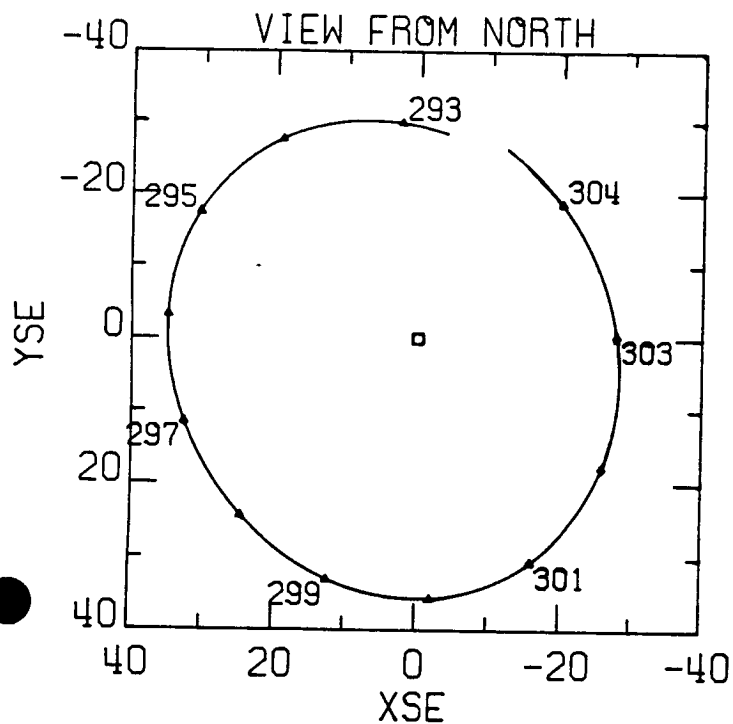
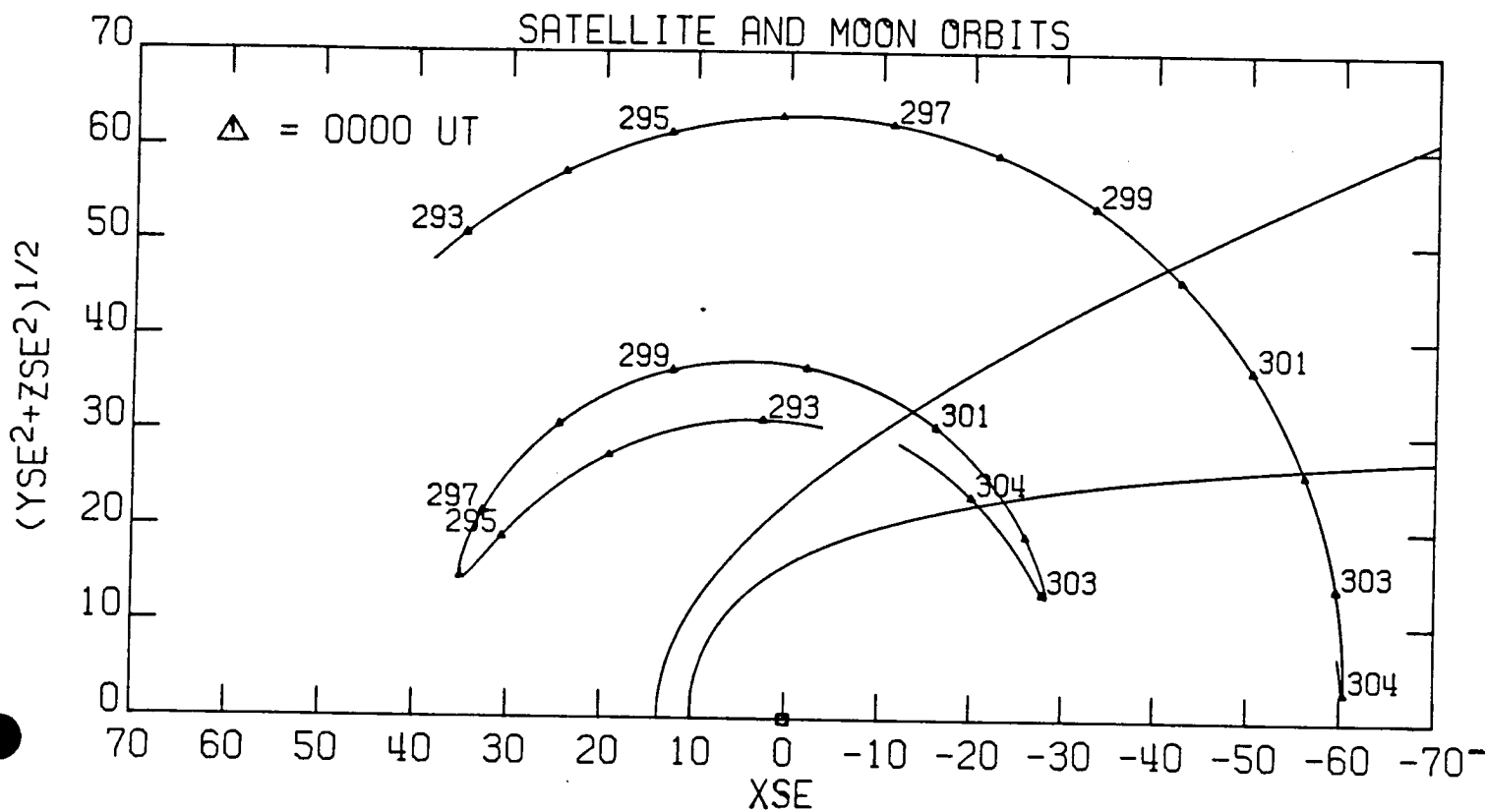


IMP 7 TRAJECTORY.

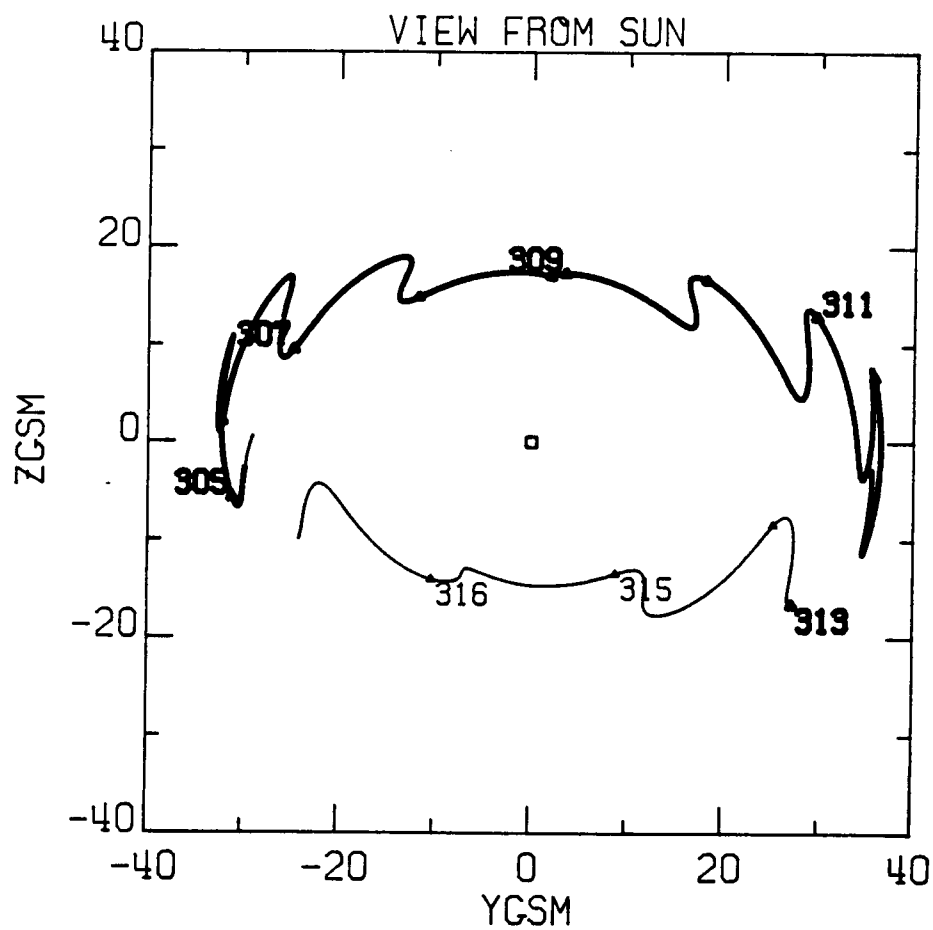
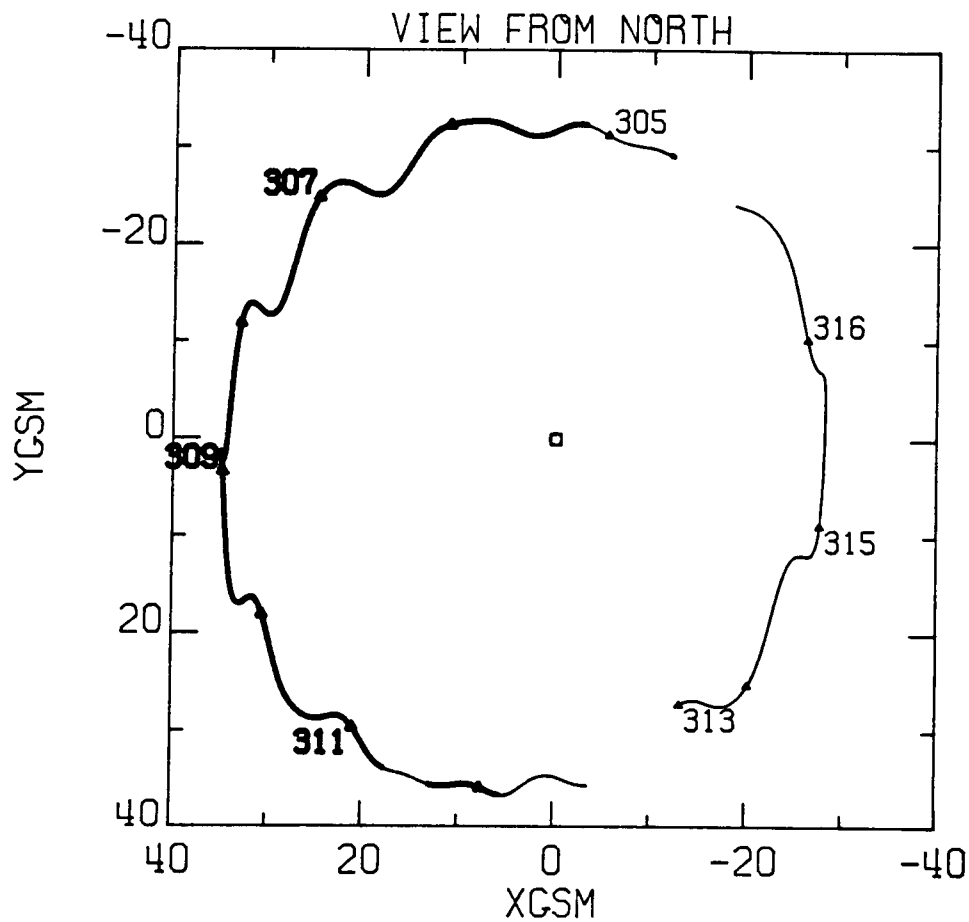
ASCENDING NODE 63

FROM OCT 19 TO OCT 31 1974

DAYS 292 THRU 304



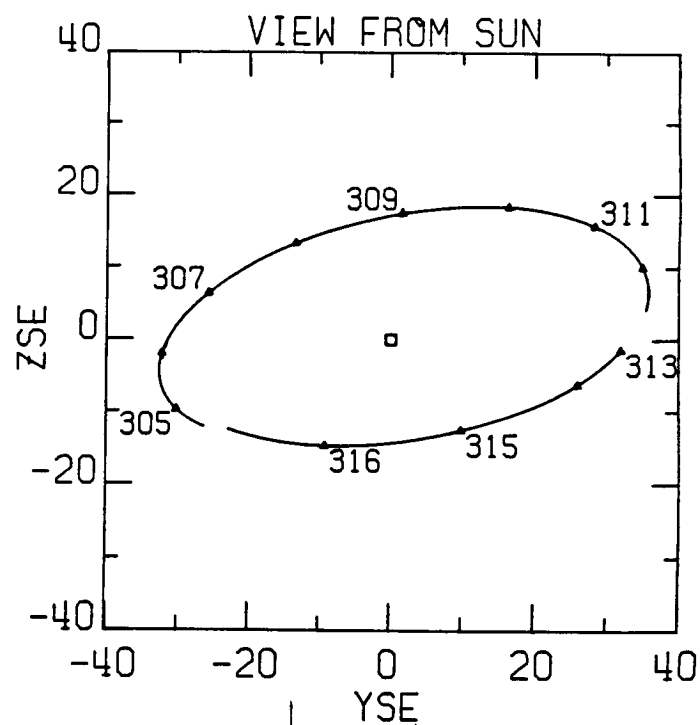
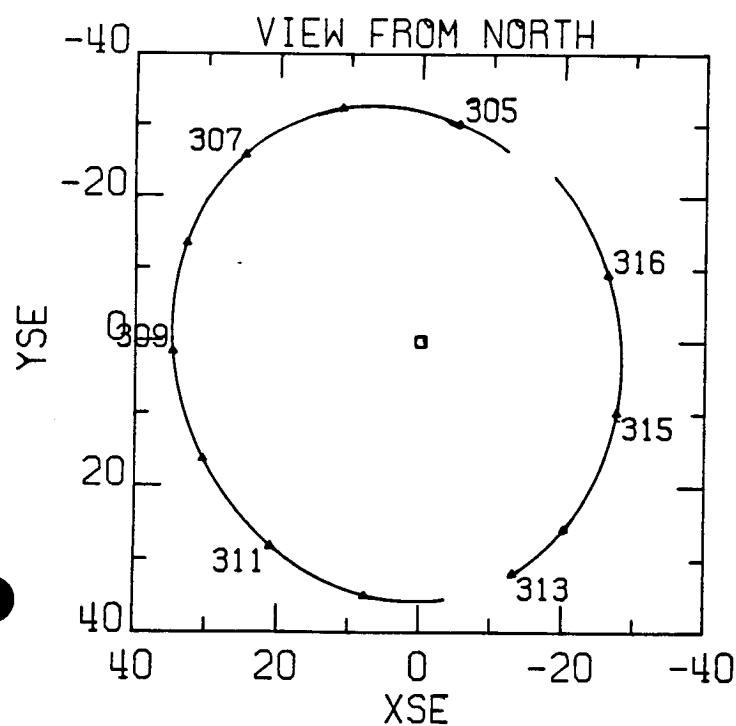
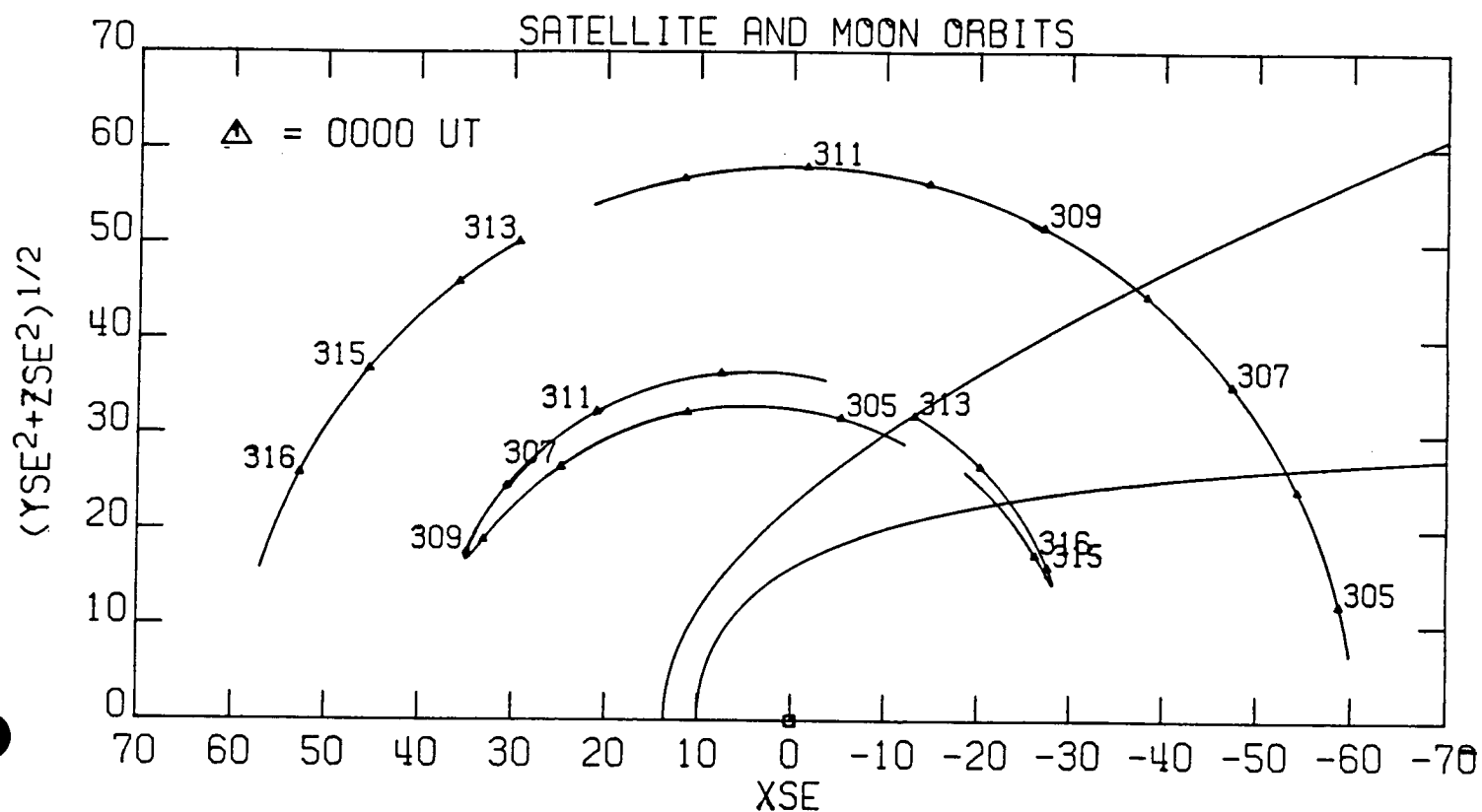
IMP 7 FROM OCT 31 TO NOV 12 1974



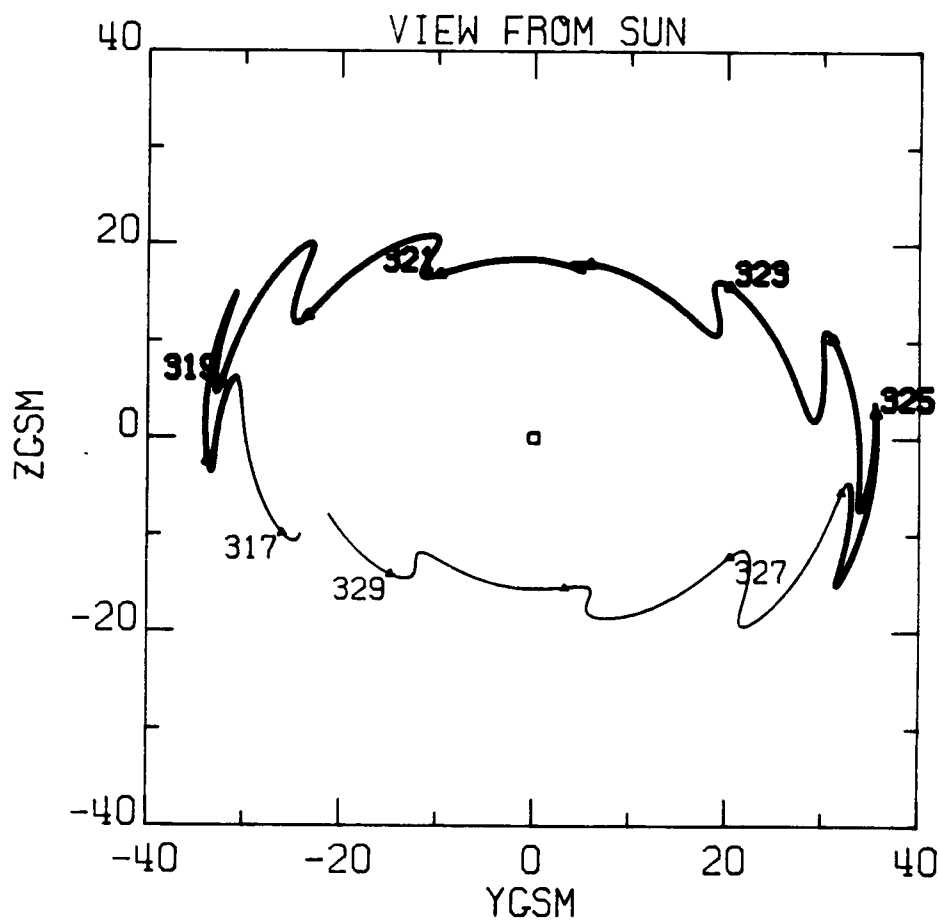
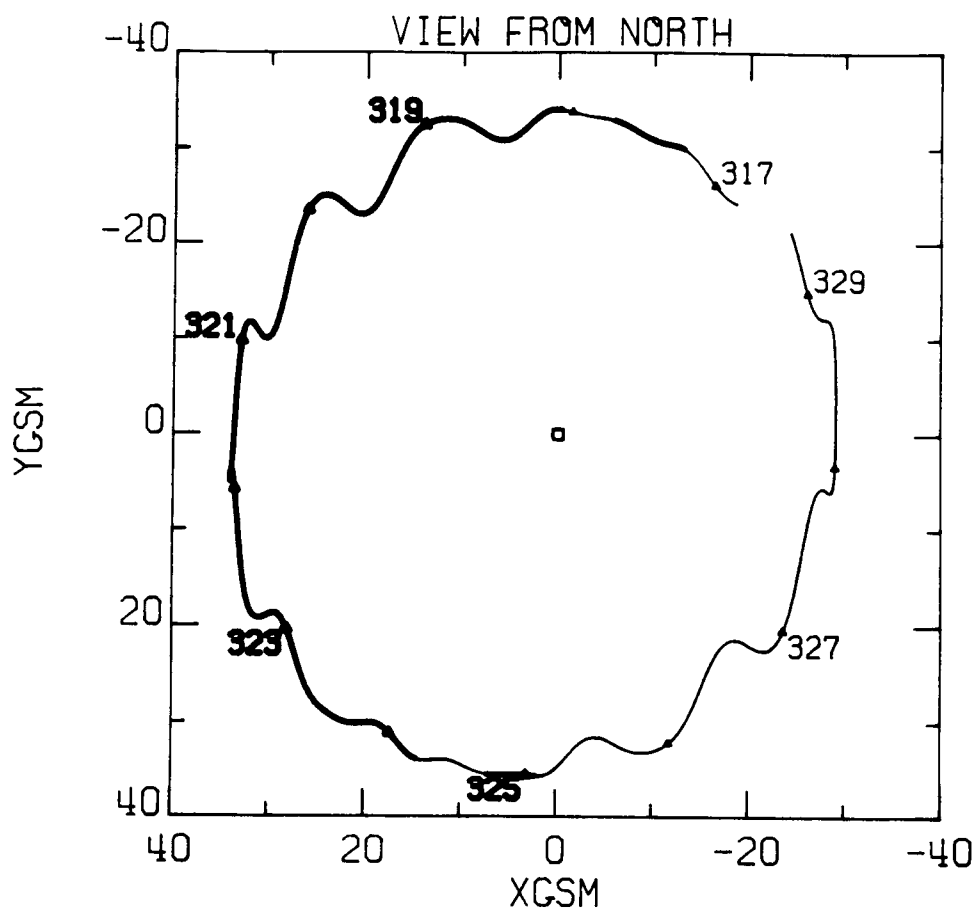
IMP 7 TRAJECTORY. ASCENDING NODE 64

FROM OCT 31 TO NOV 12 1974

DAYS 304 THRU 316



IMP 7 FROM NOV 12 TO NOV 25 1974

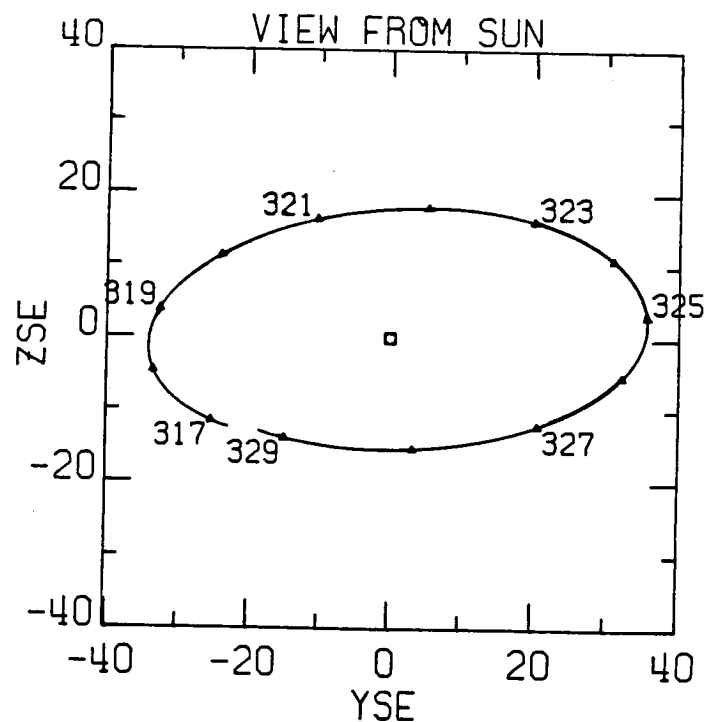
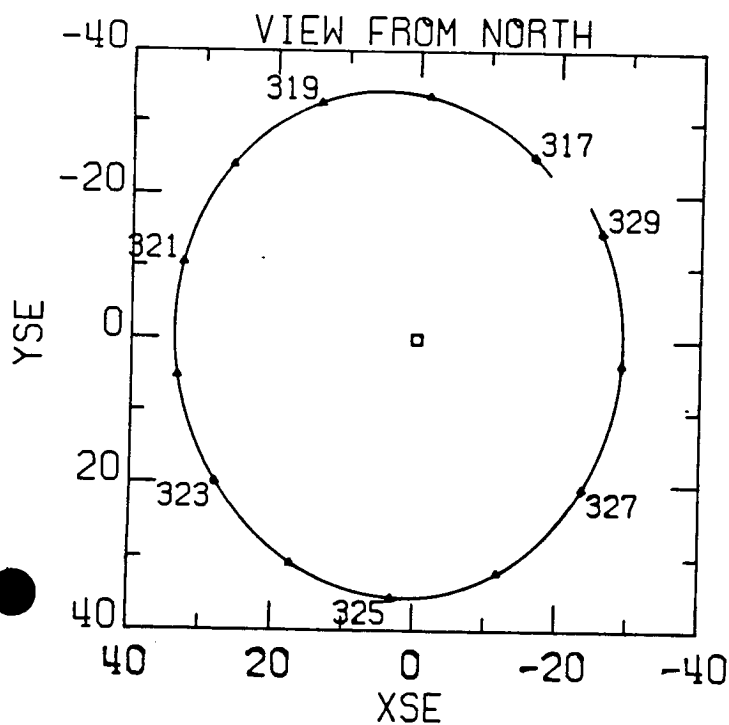
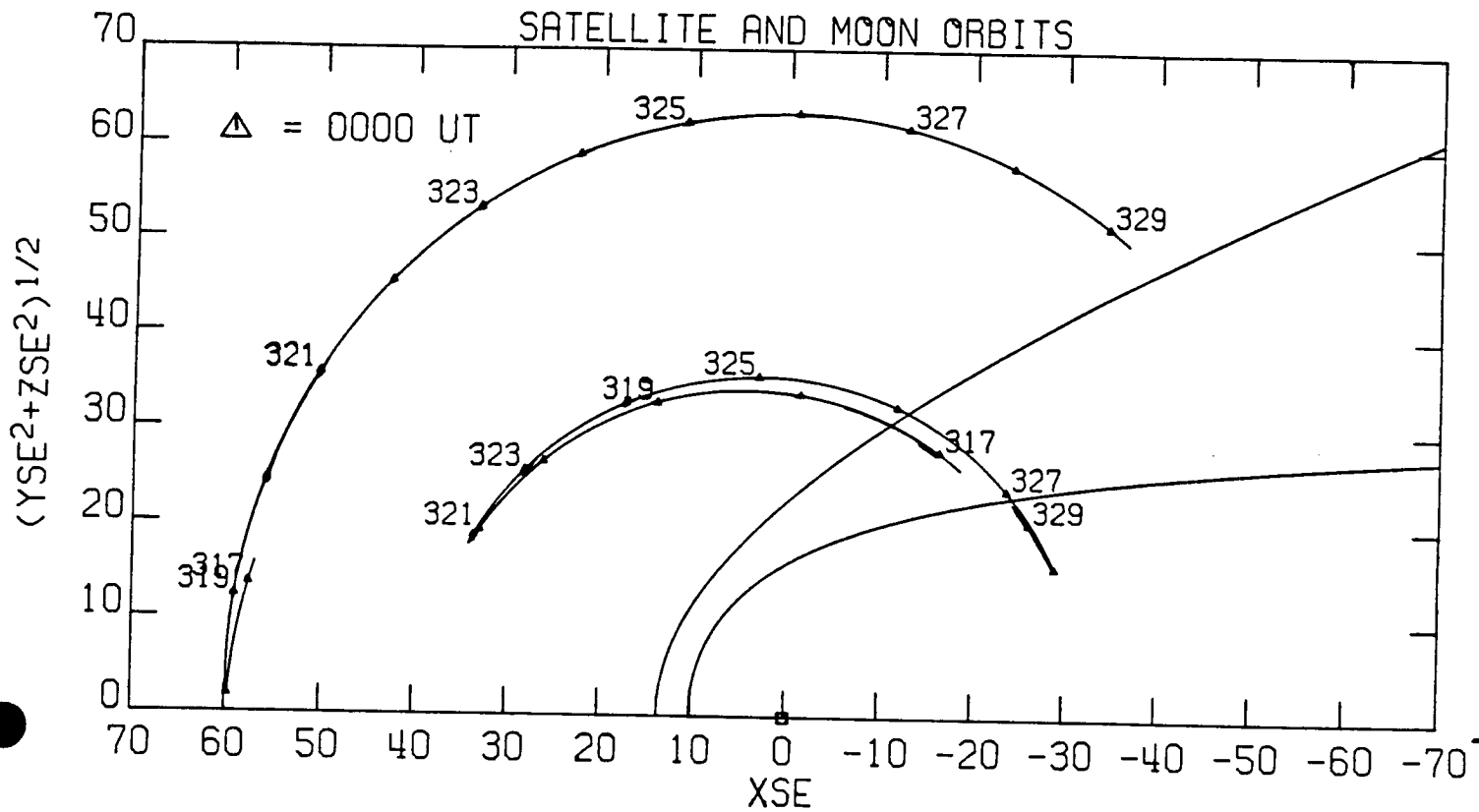


IMP 7 TRAJECTORY.

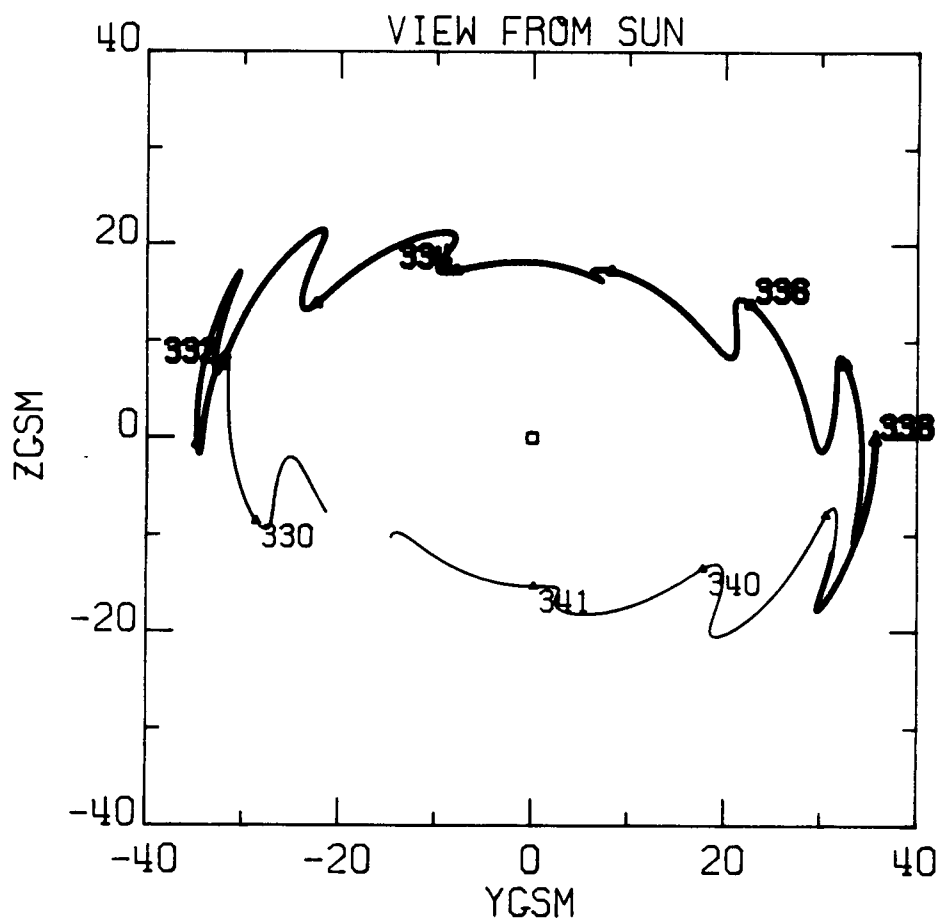
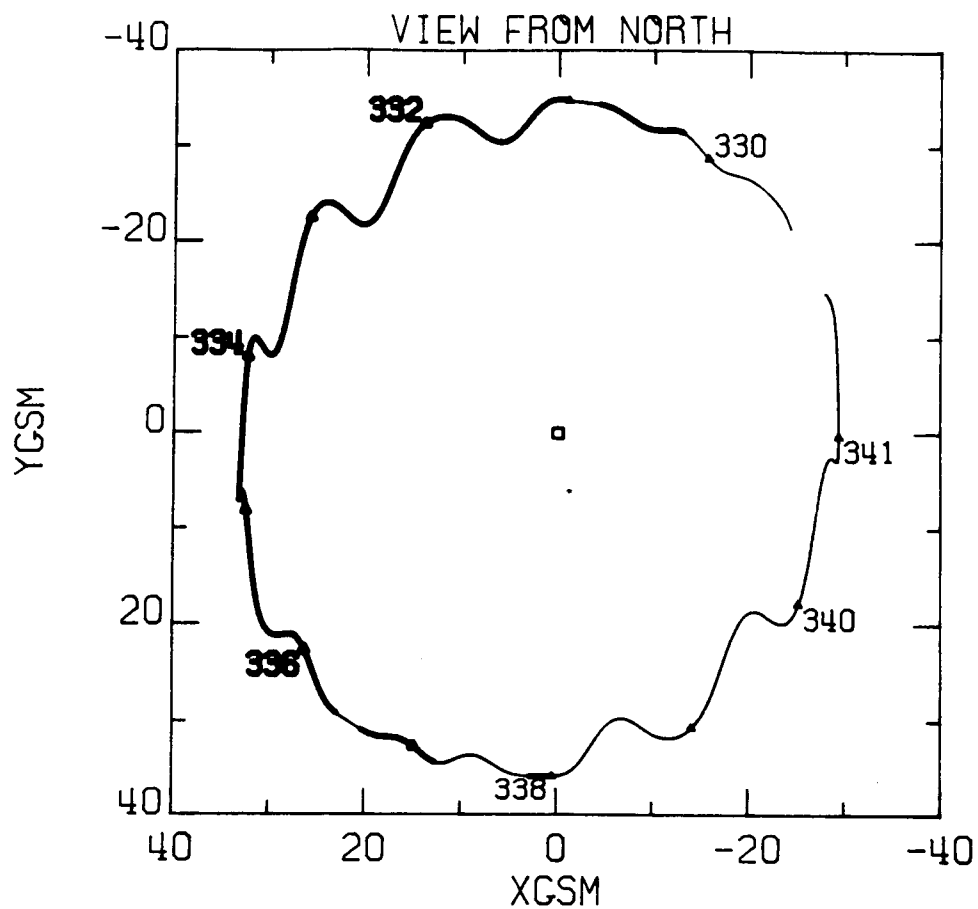
ASCENDING NODE 65

FROM NOV 12 TO NOV 25 1974

DAYS 316 THRU 329



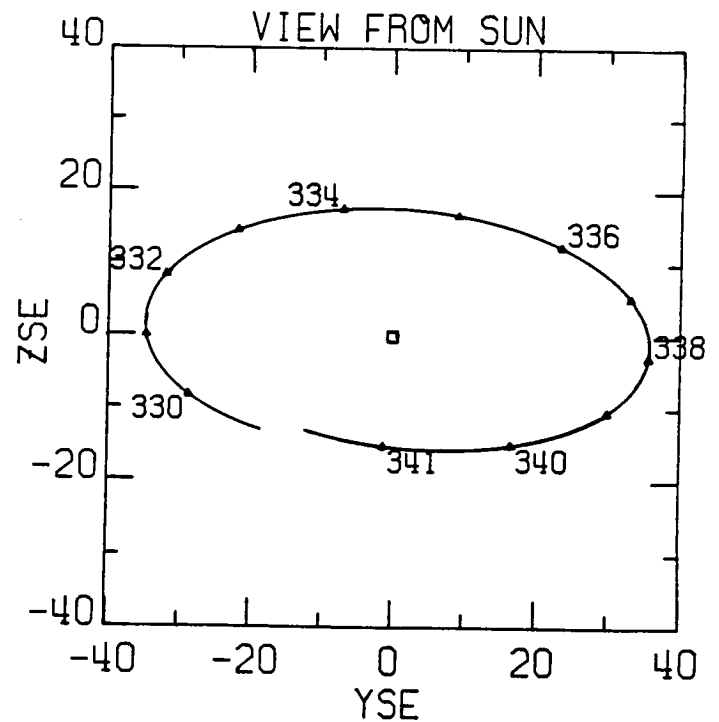
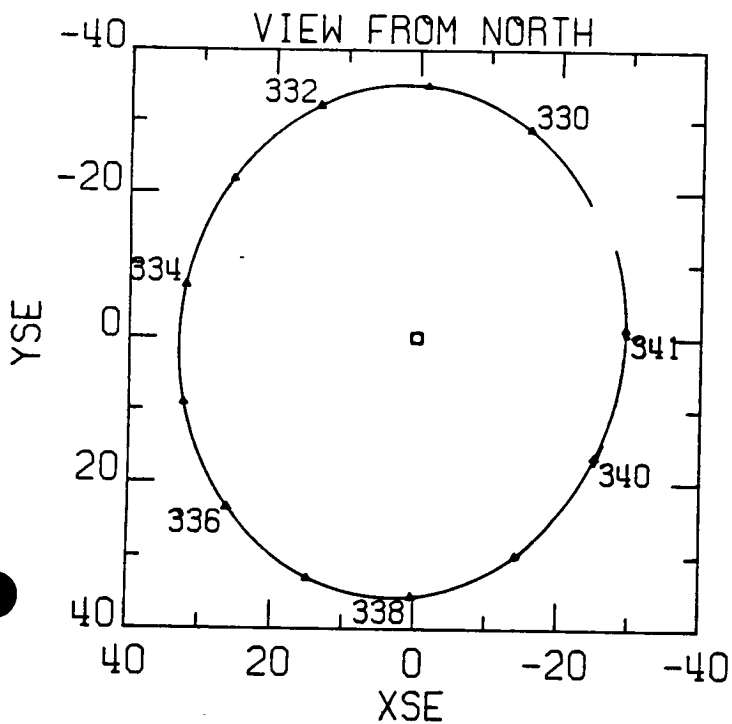
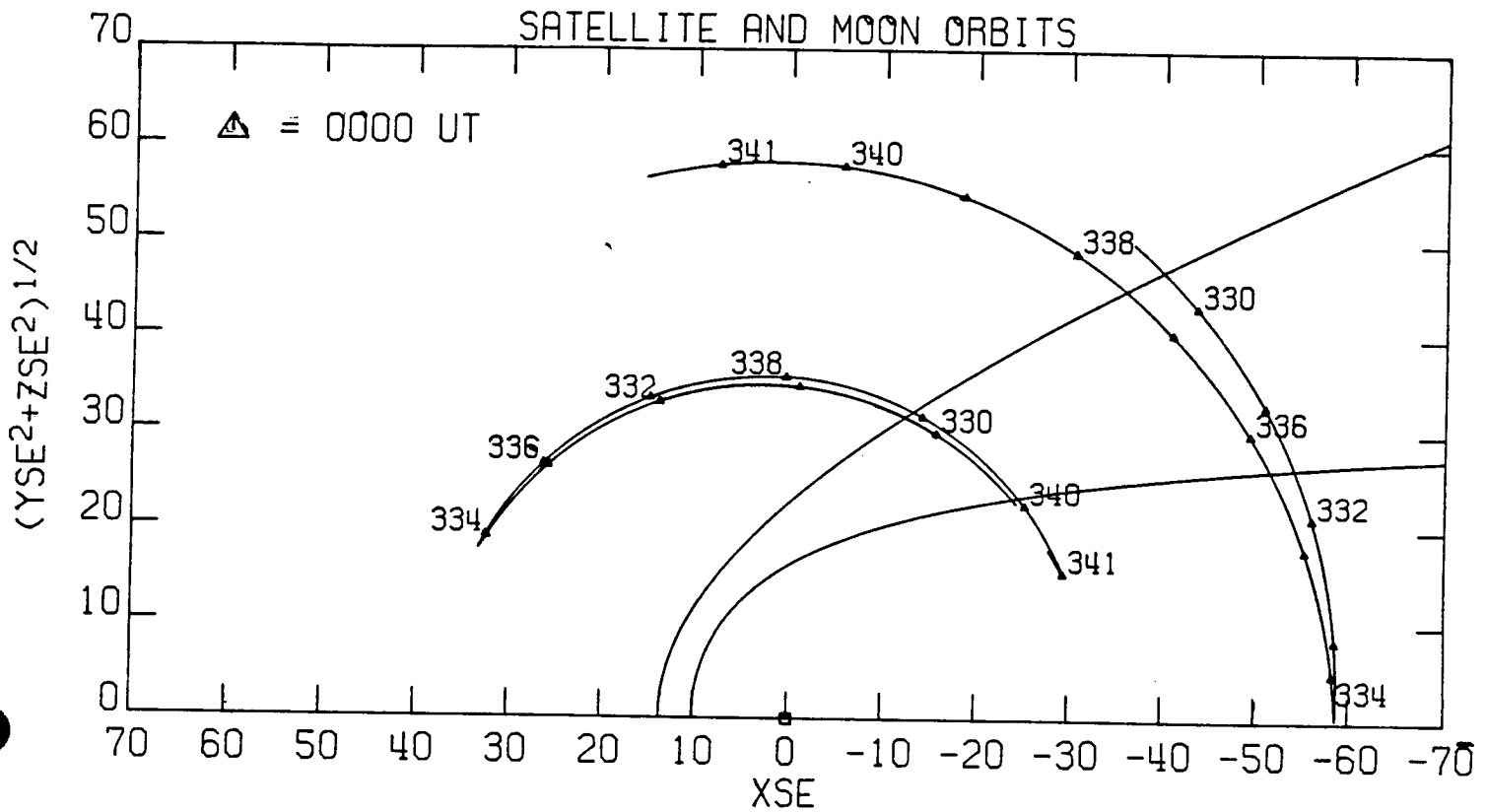
IMP 7 FROM NOV 25 TO DEC 7 1974



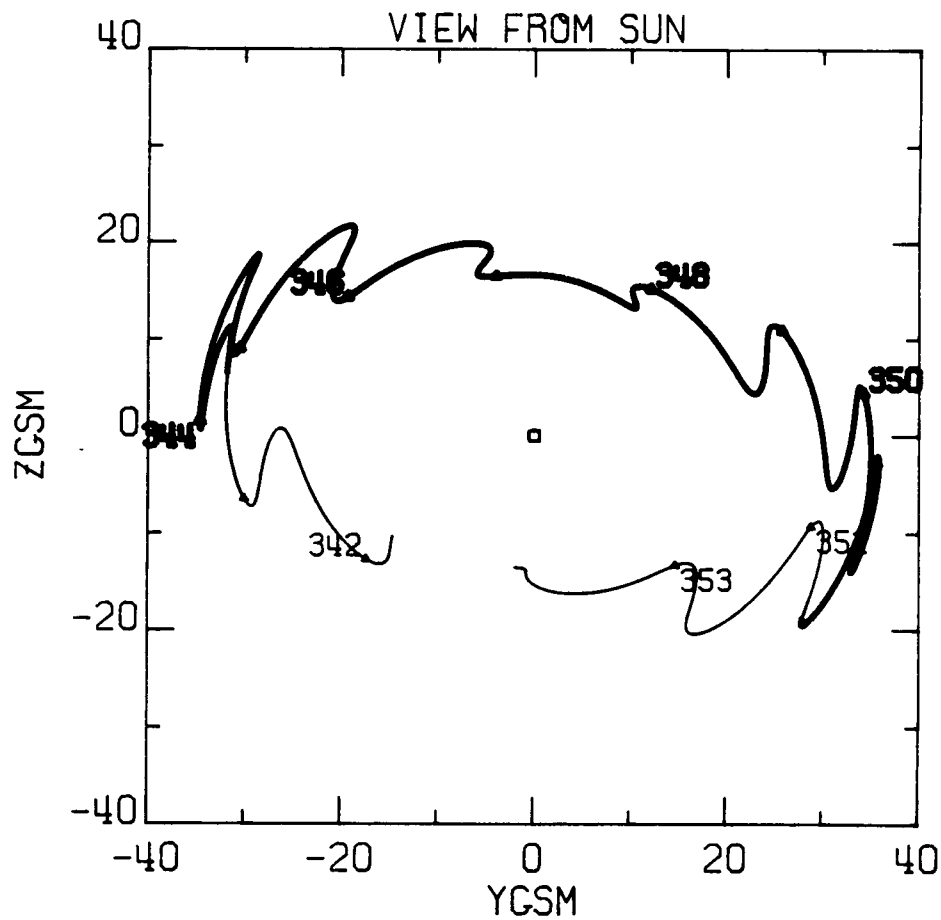
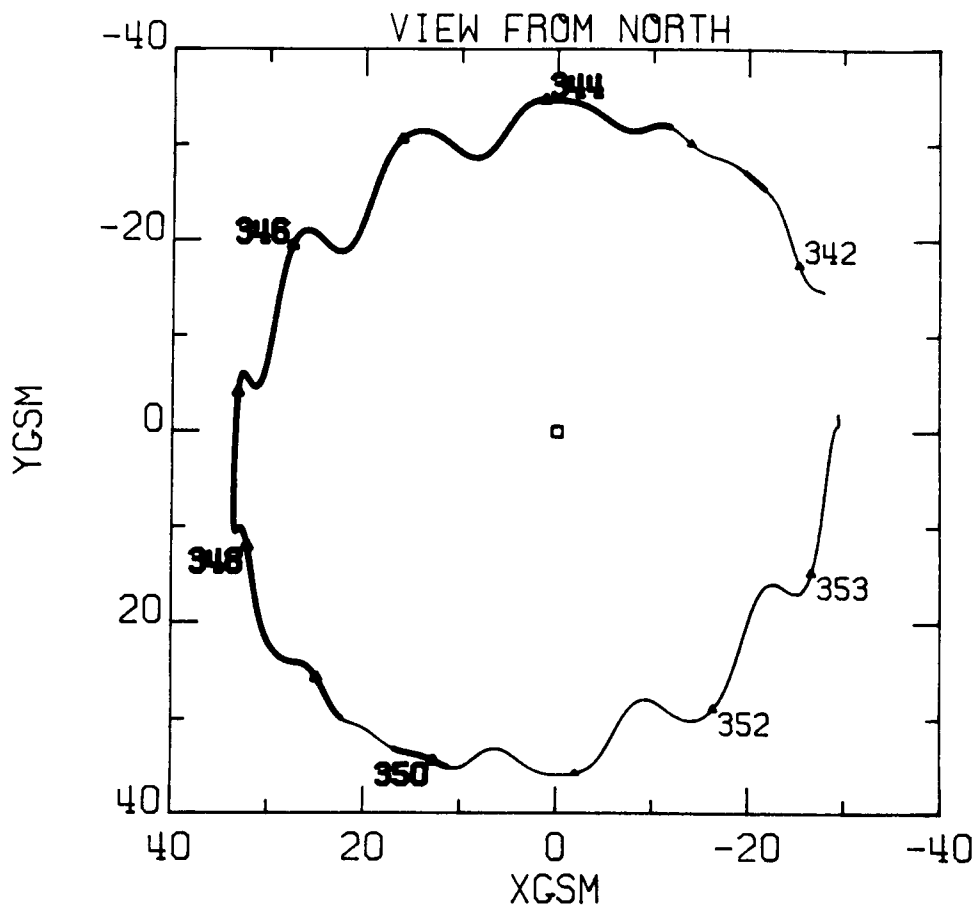
IMP 7 TRAJECTORY. ASCENDING NODE 66

FROM NOV 25 TO DEC 7 1974

DAYS 329 THRU 341



IMP 7 FROM DEC 7 TO DEC 19 1974

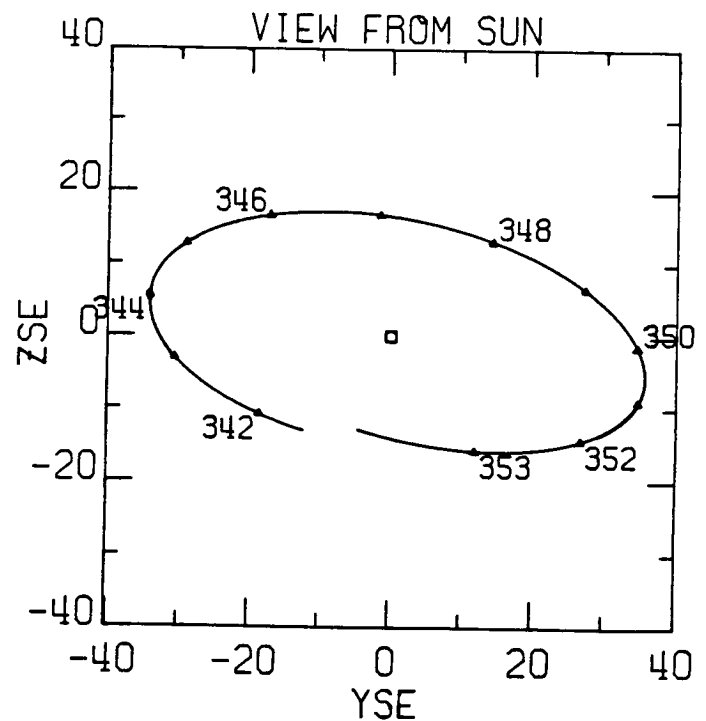
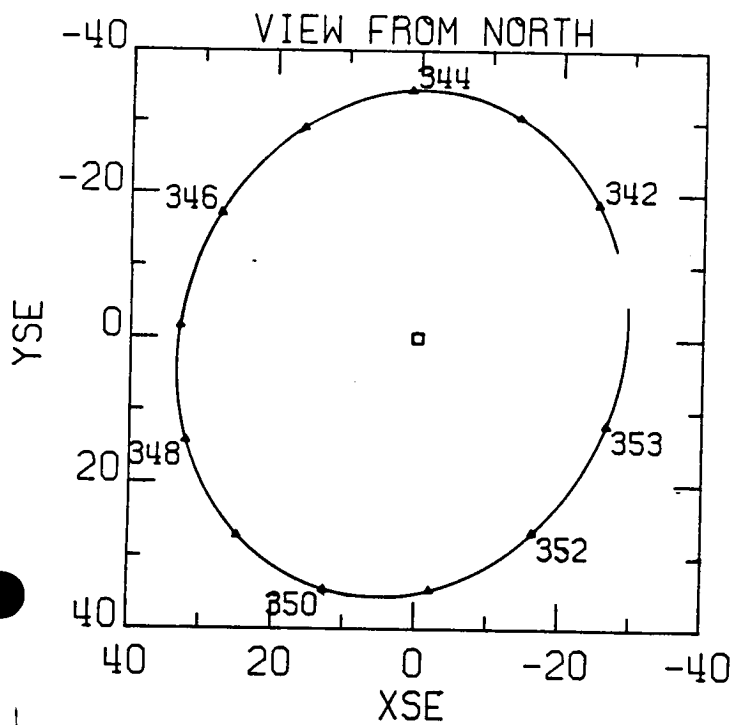
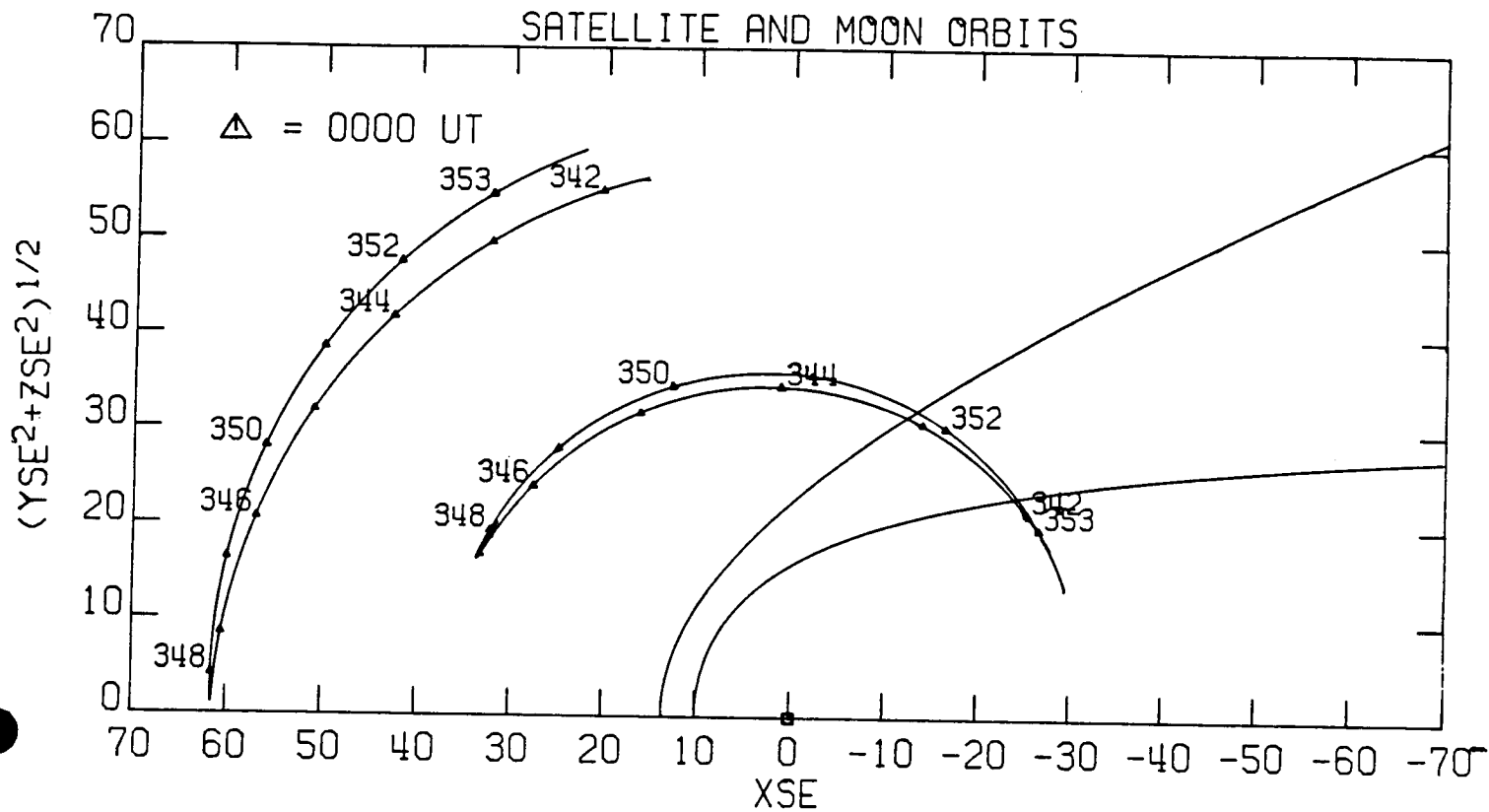


IMP 7 TRAJECTORY.

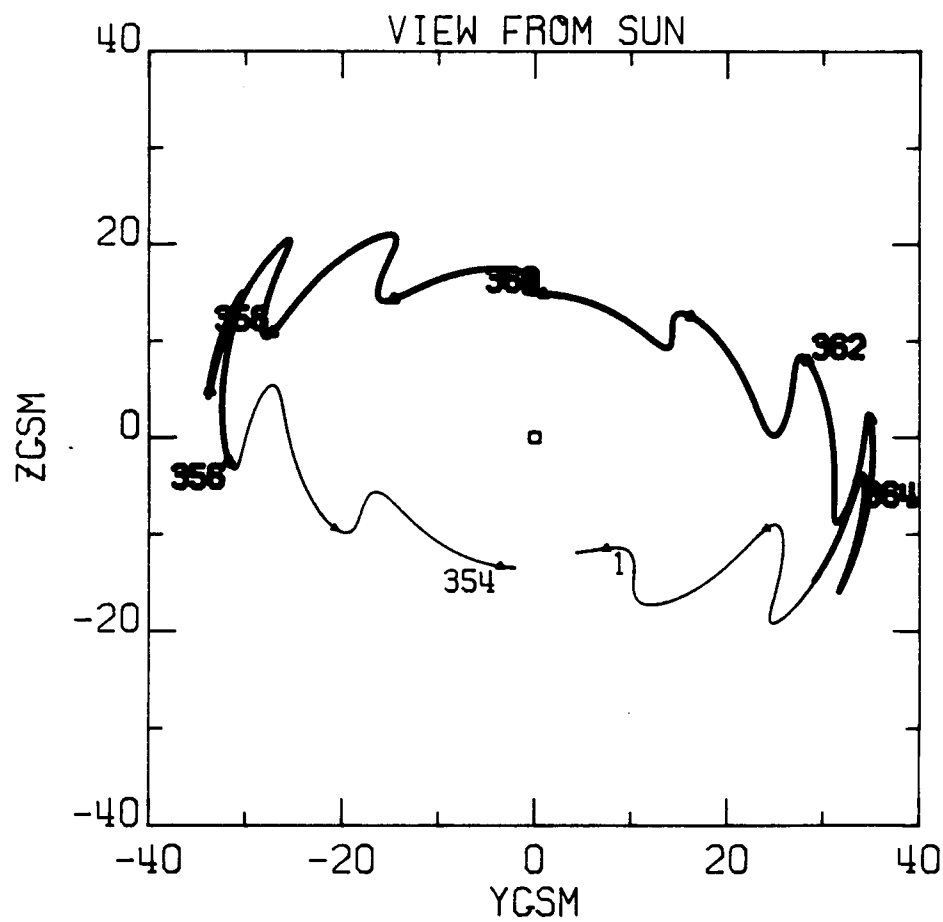
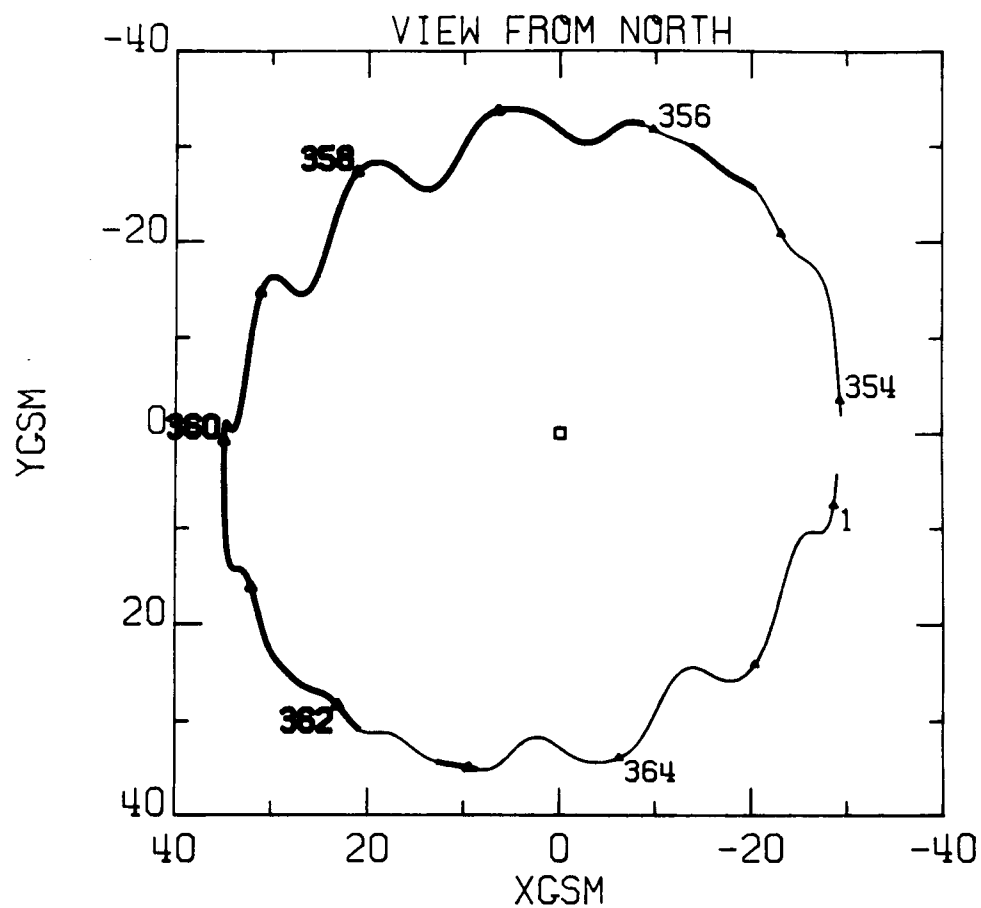
ASCENDING NODE 67

FROM DEC 7 TO DEC 19 1974

DAYS 341 THRU 353



IMP 7 FROM DEC 19 TO JAN 1 1975

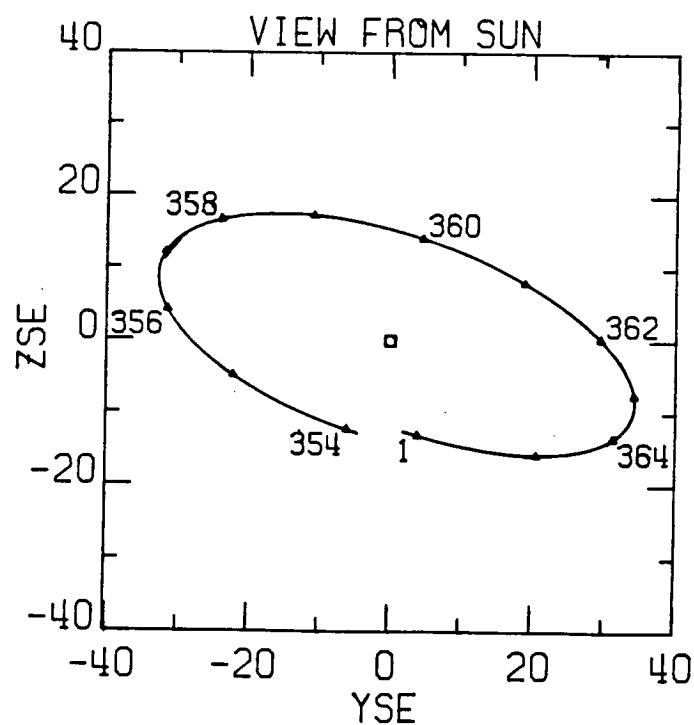
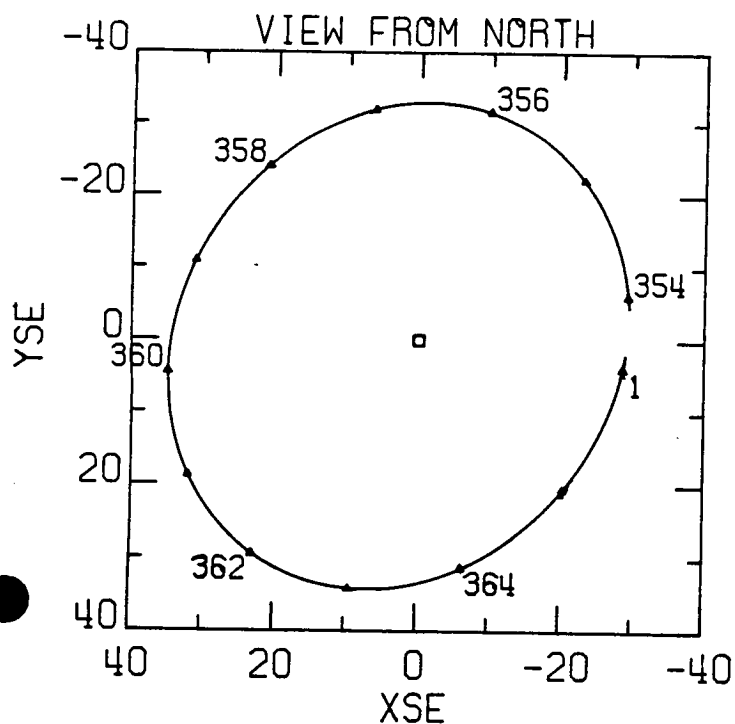
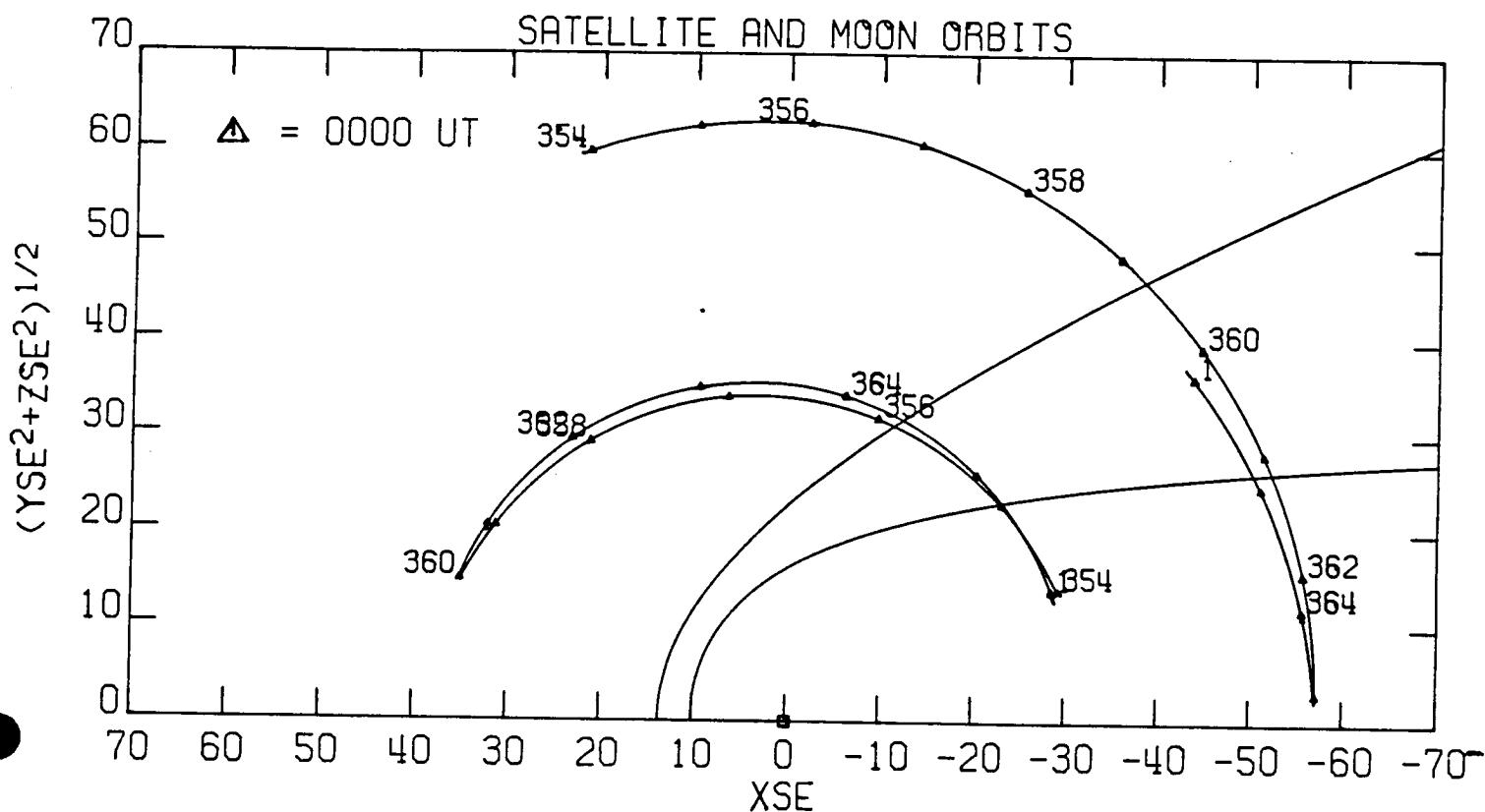


IMP 7 TRAJECTORY.

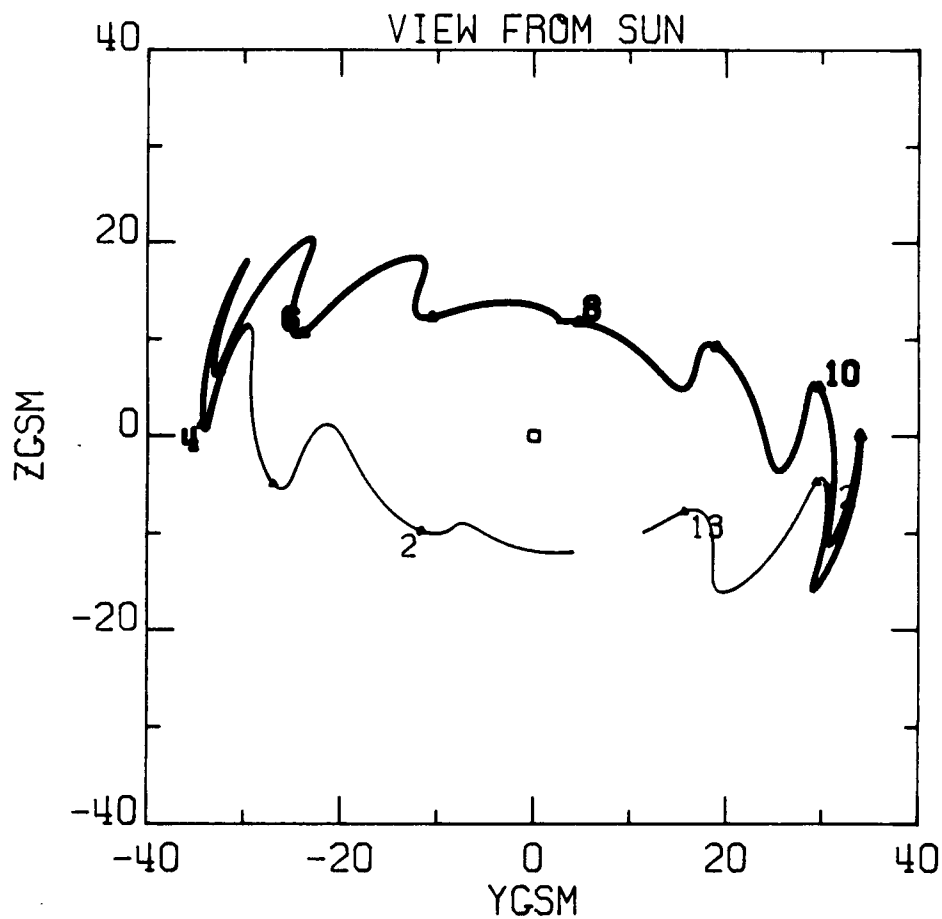
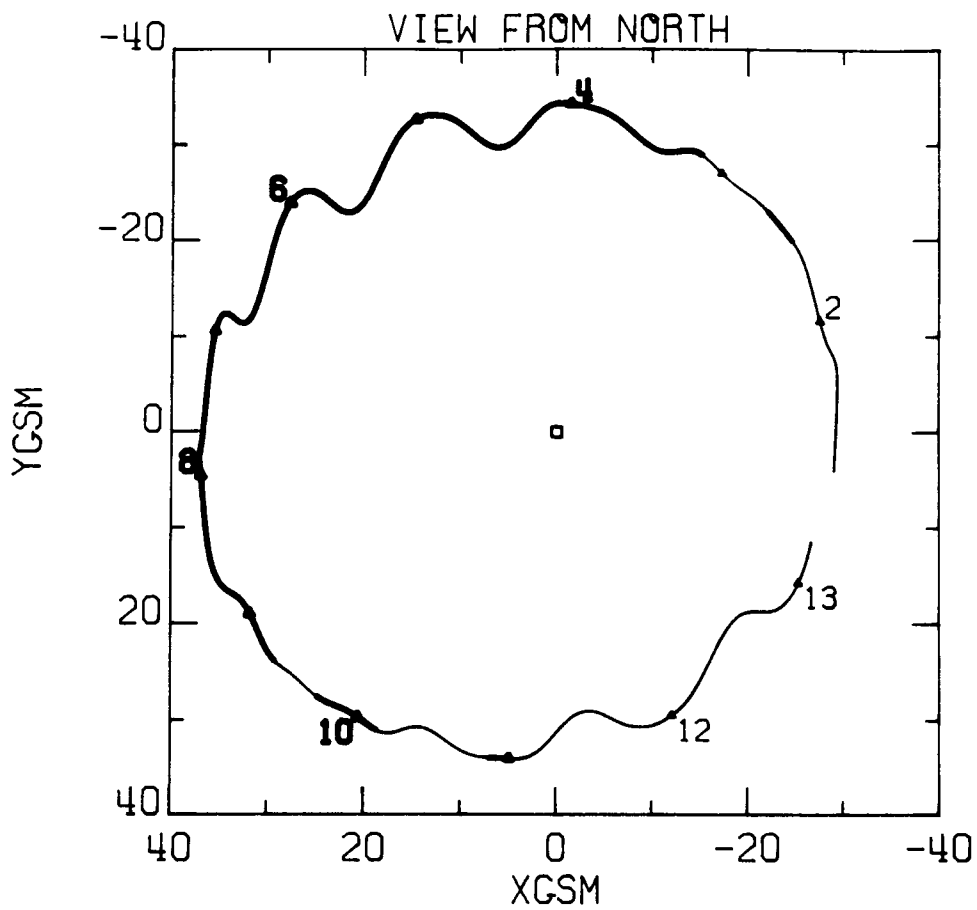
ASCENDING NODE 68

FROM DEC 19 TO JAN 1 1975

DAYS 353 THRU 1



IMP 7 FROM JAN 1 TO JAN 13 1975

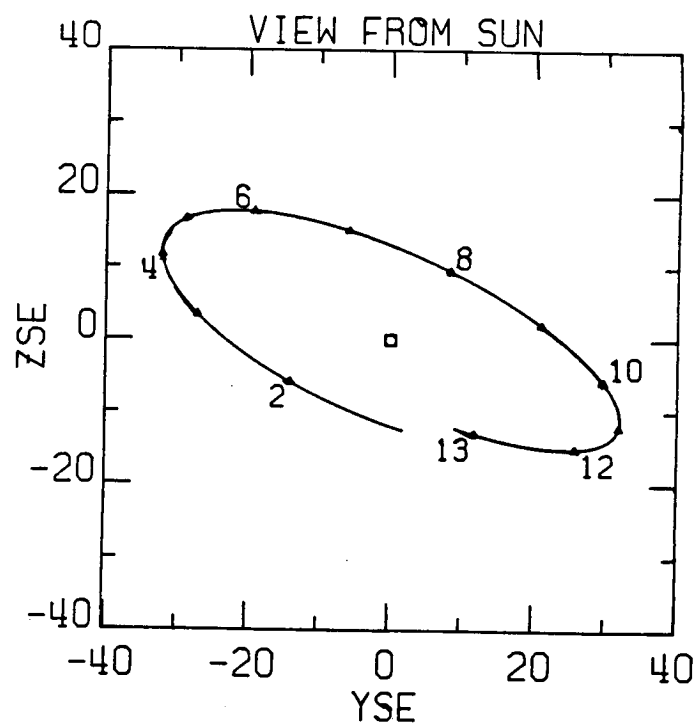
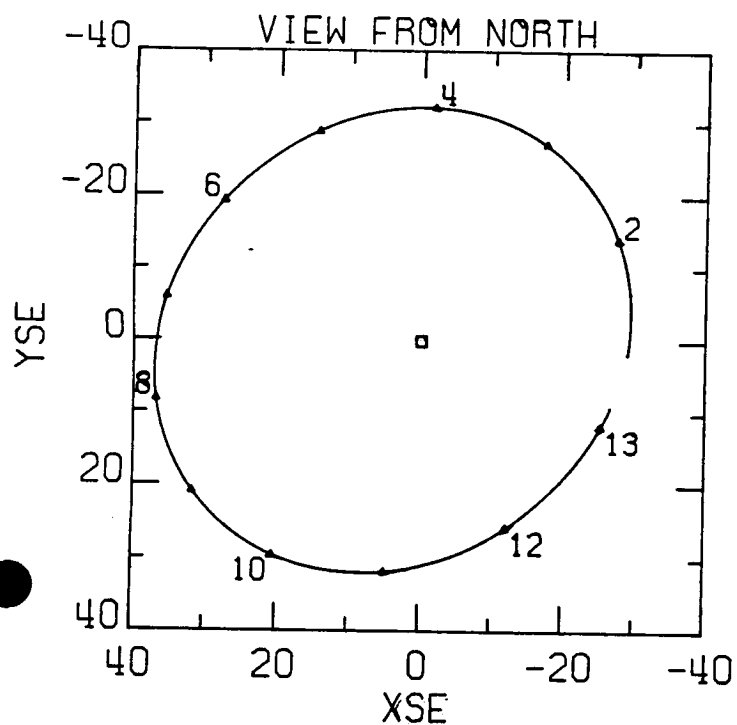
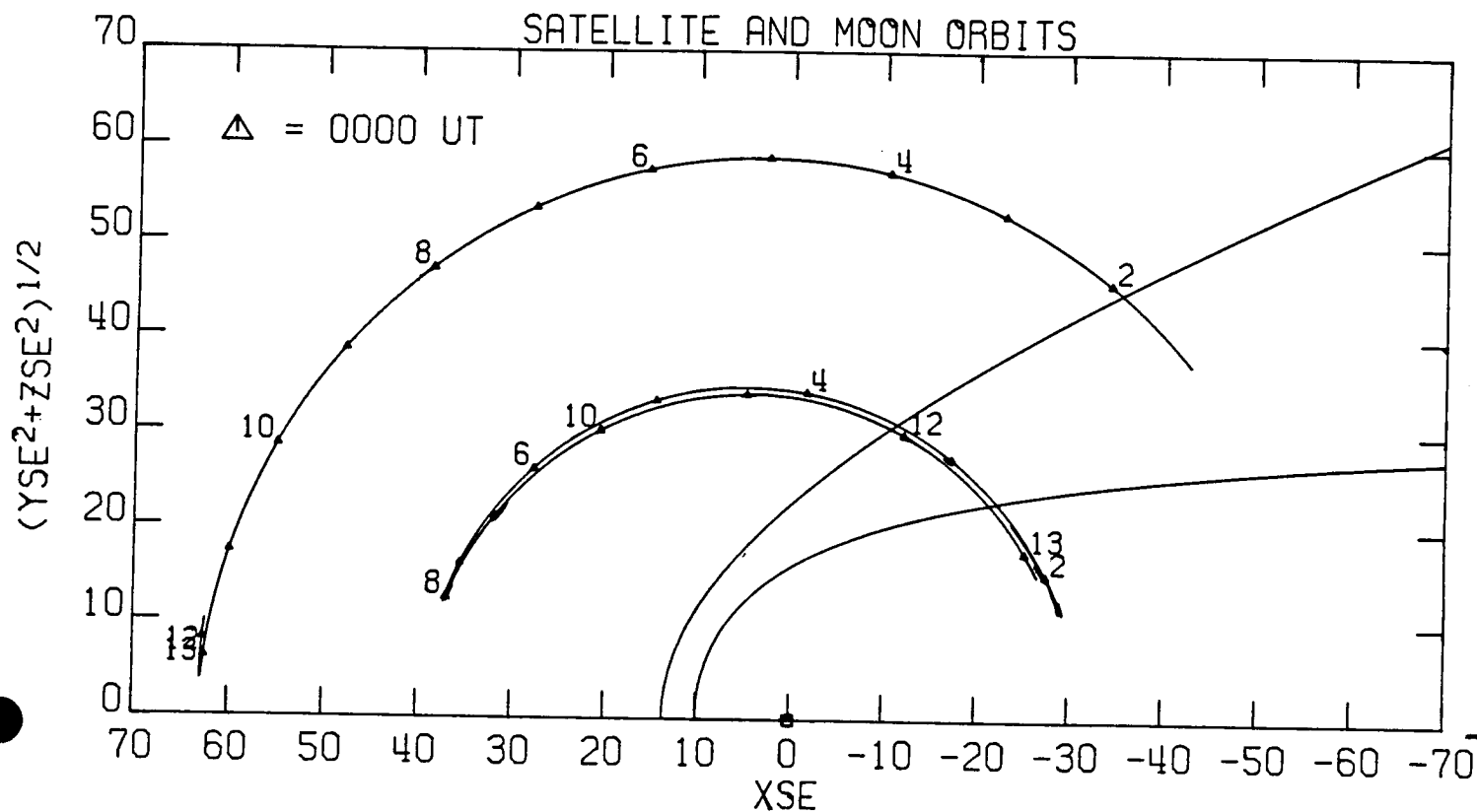


IMP 7 TRAJECTORY.

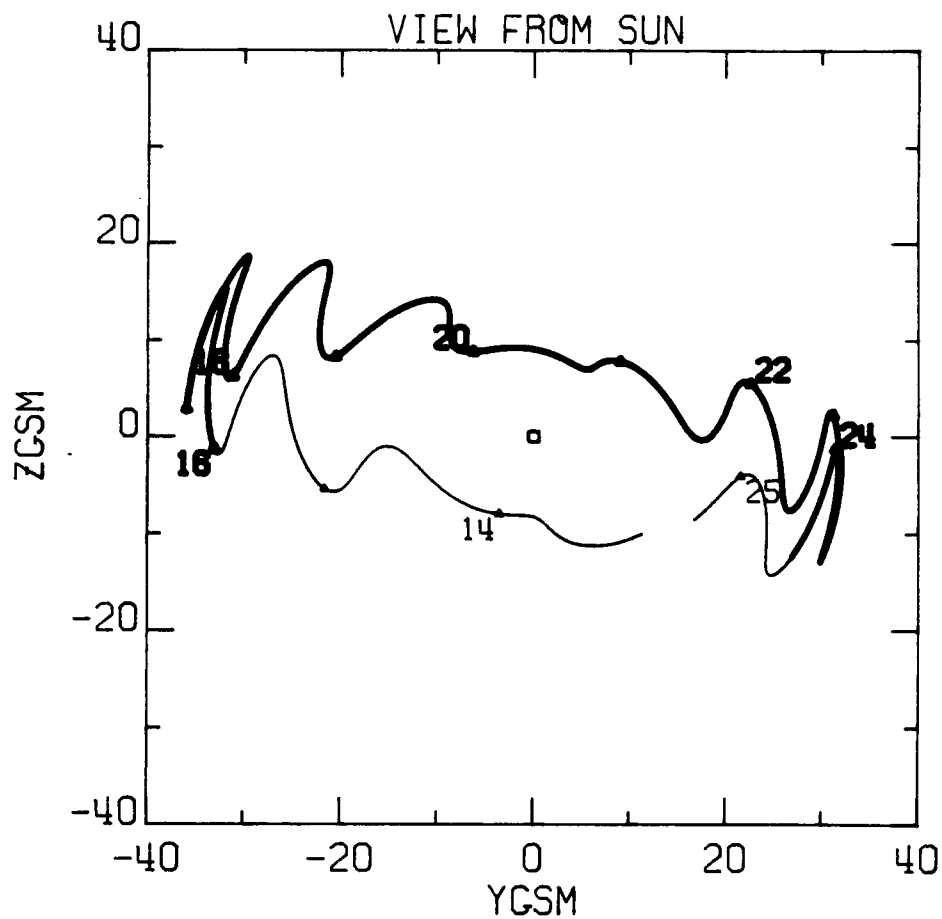
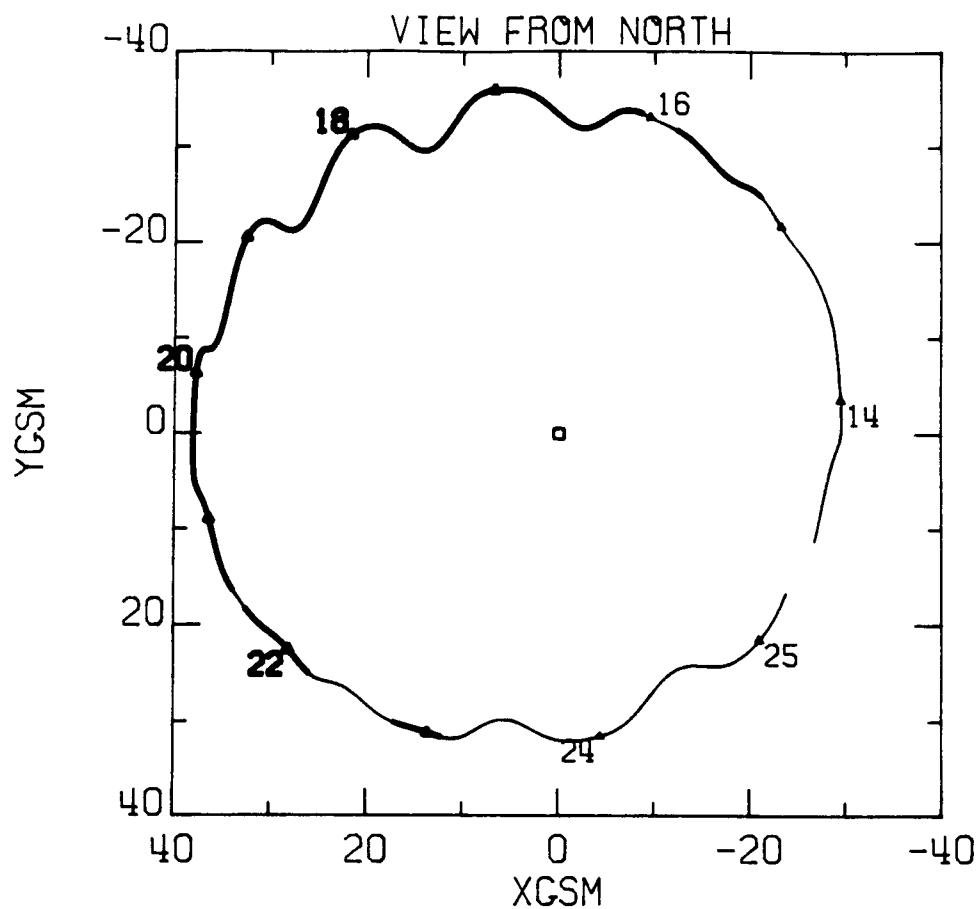
ASCENDING NODE 69

FROM JAN 1 TO JAN 13 1975

DAYS 1 THRU 13



IMP 7 FROM JAN 13 TO JAN 25 1975

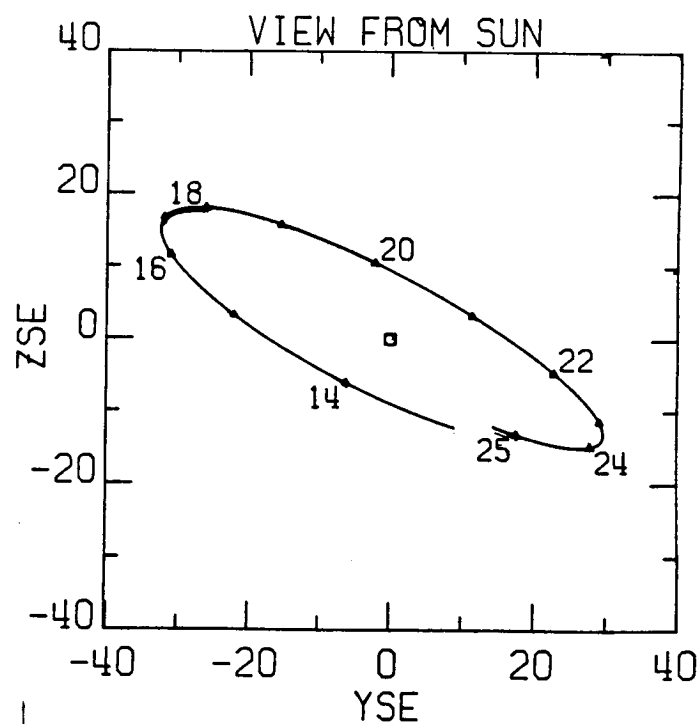
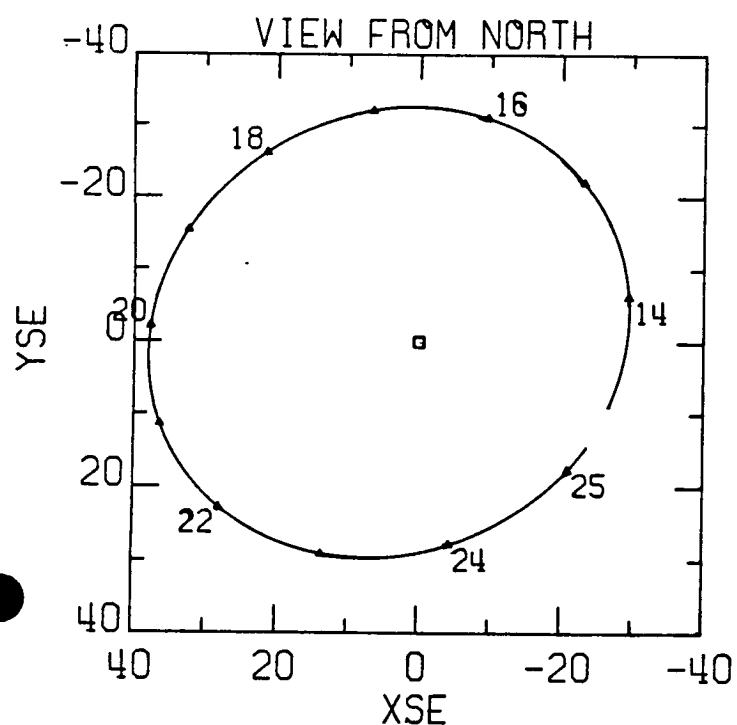
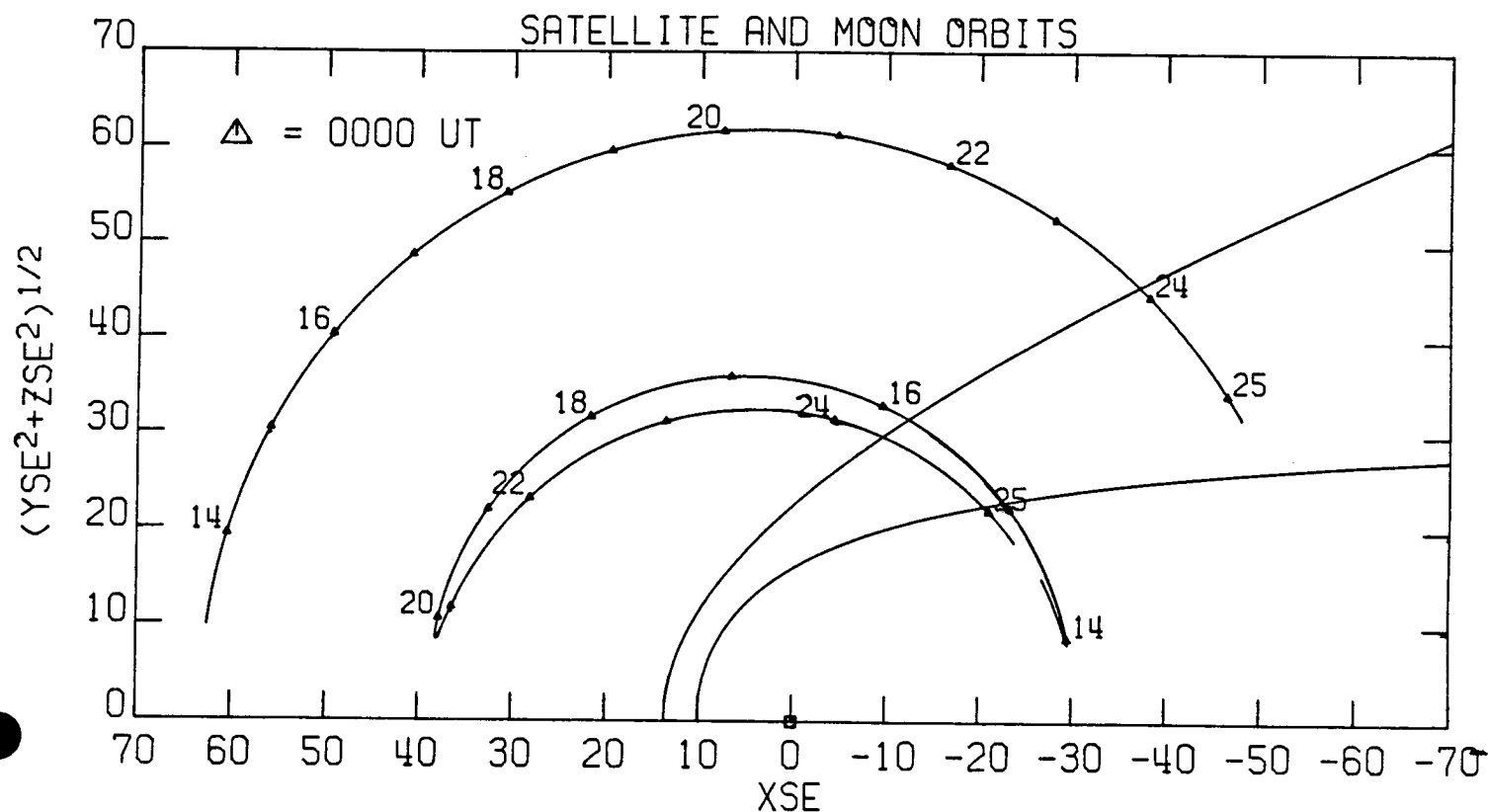


IMP 7 TRAJECTORY.

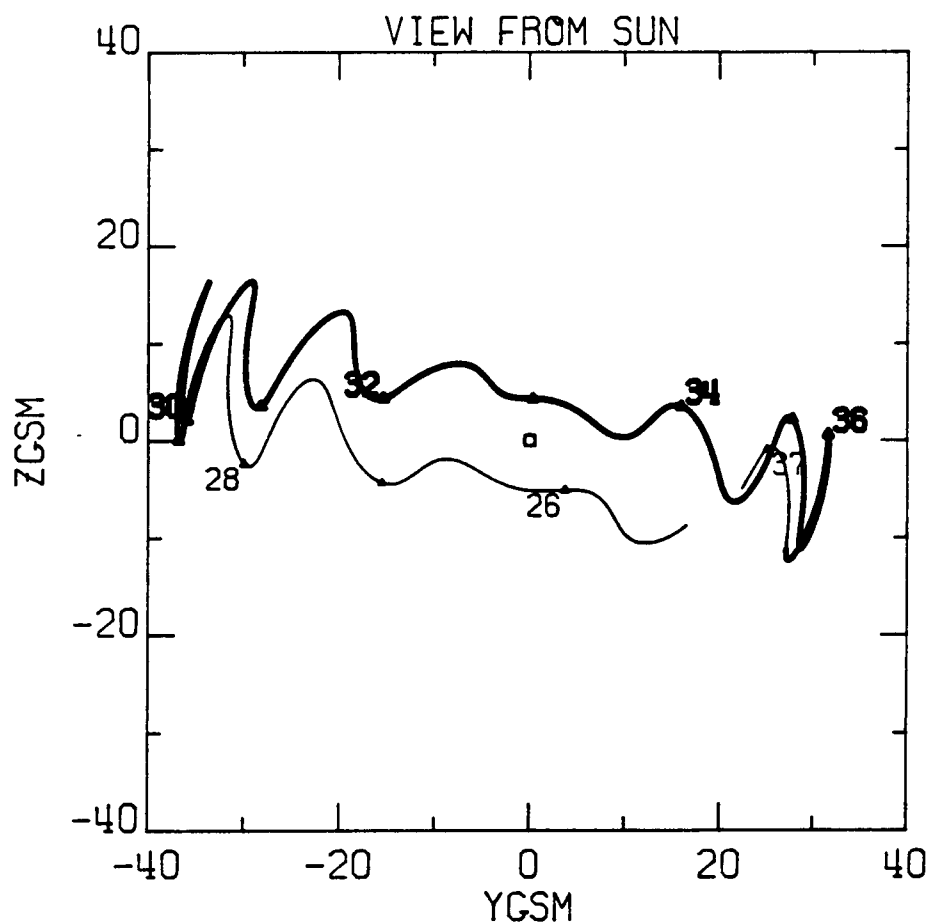
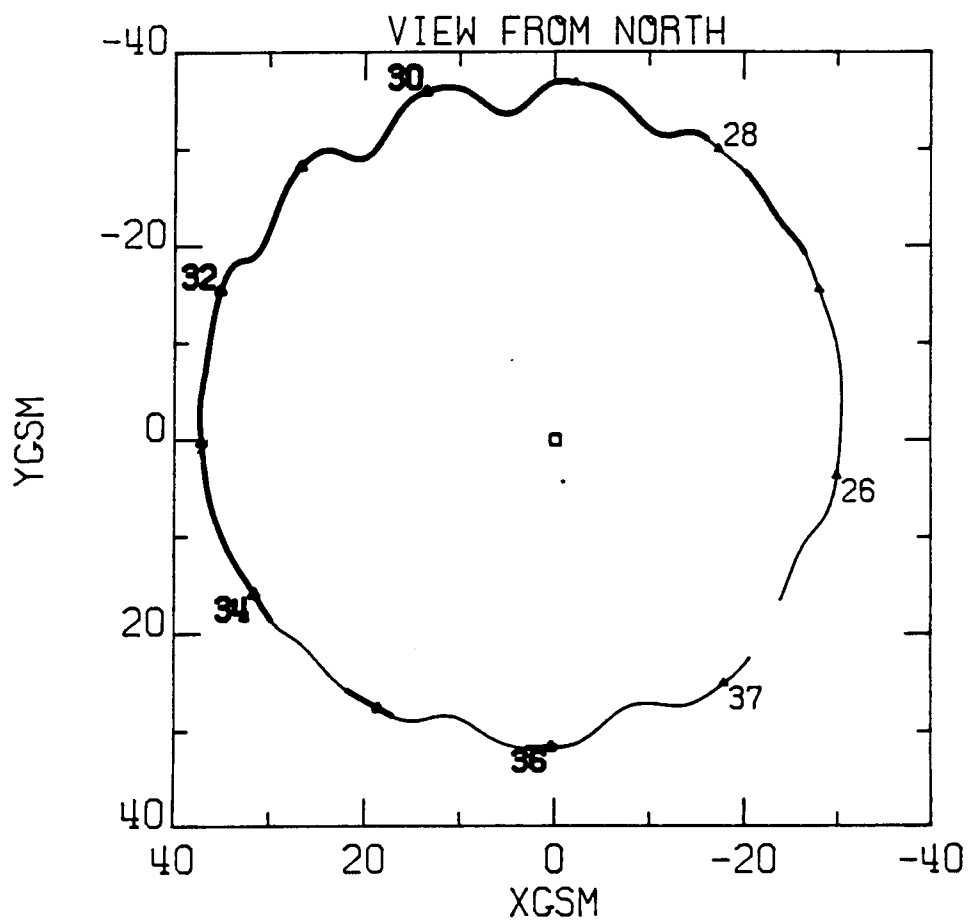
ASCENDING NODE 70

FROM JAN 13 TO JAN 25 1975

DAYS 13 THRU 25



IMP 7 FROM JAN 25 TO FEB 6 1975

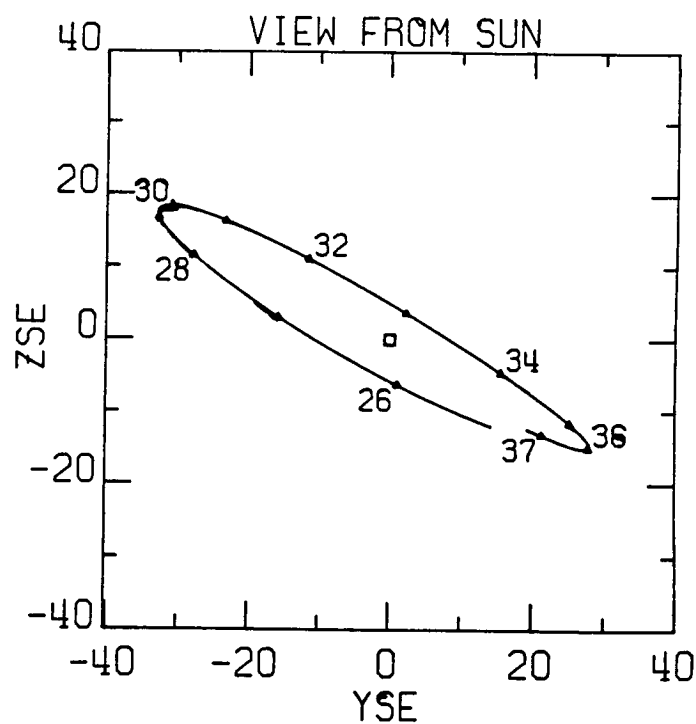
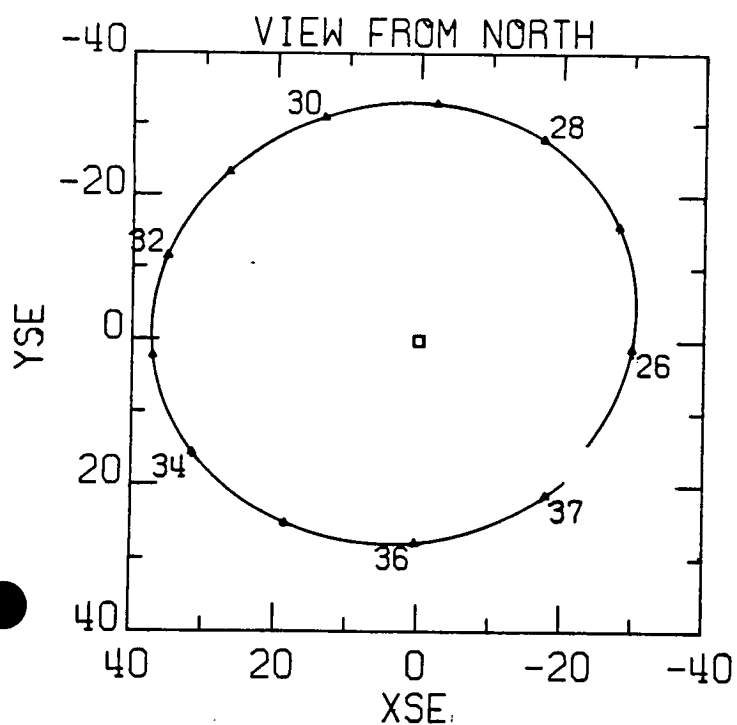
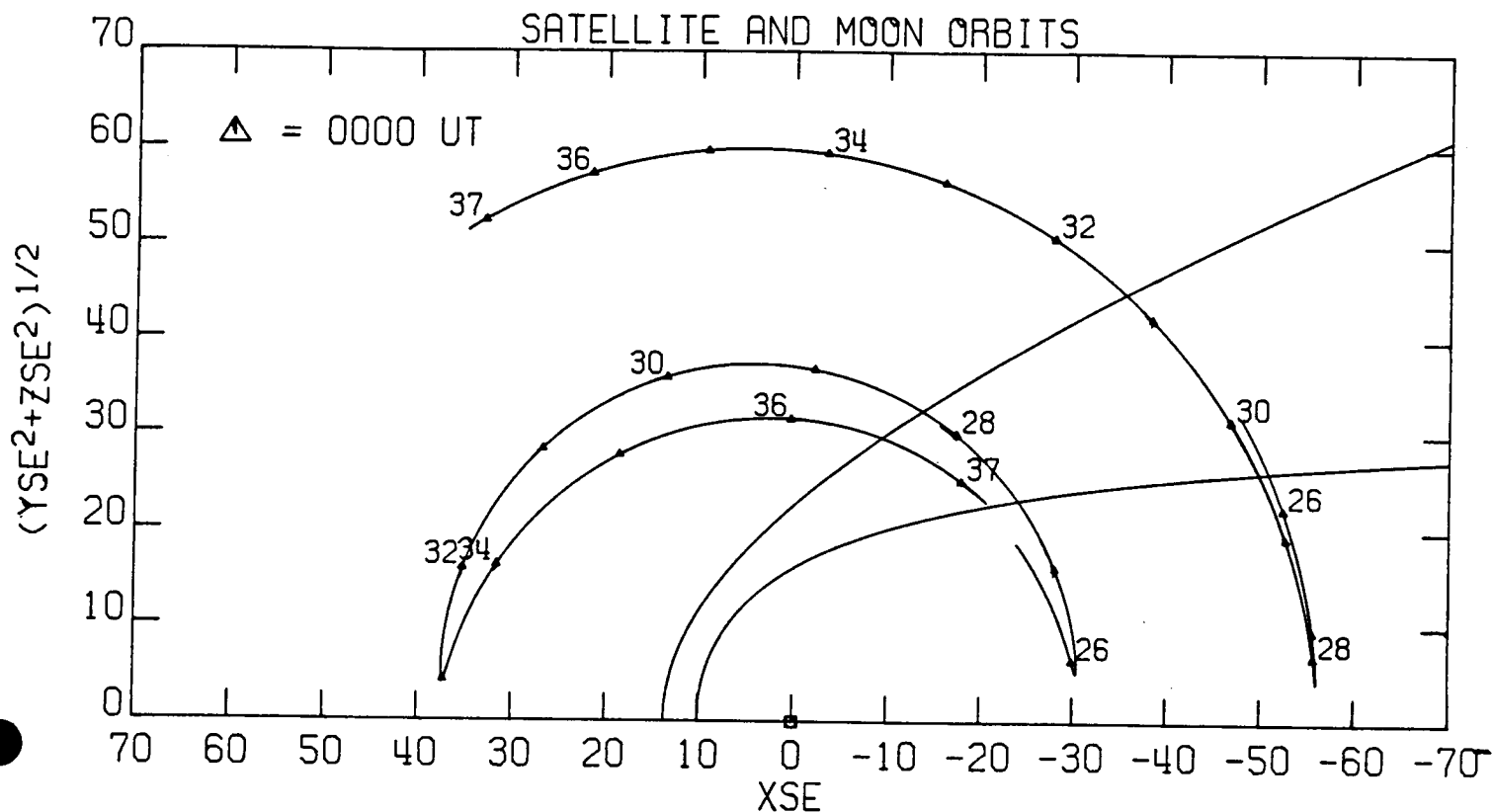


IMP 7 TRAJECTORY.

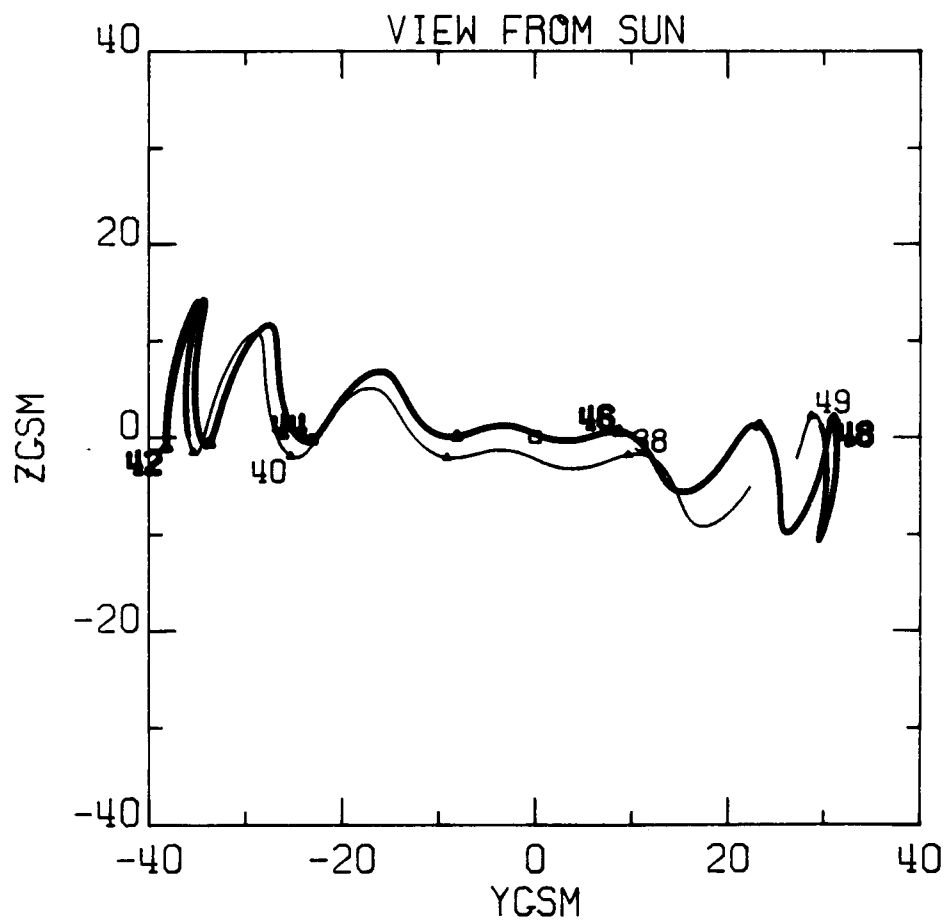
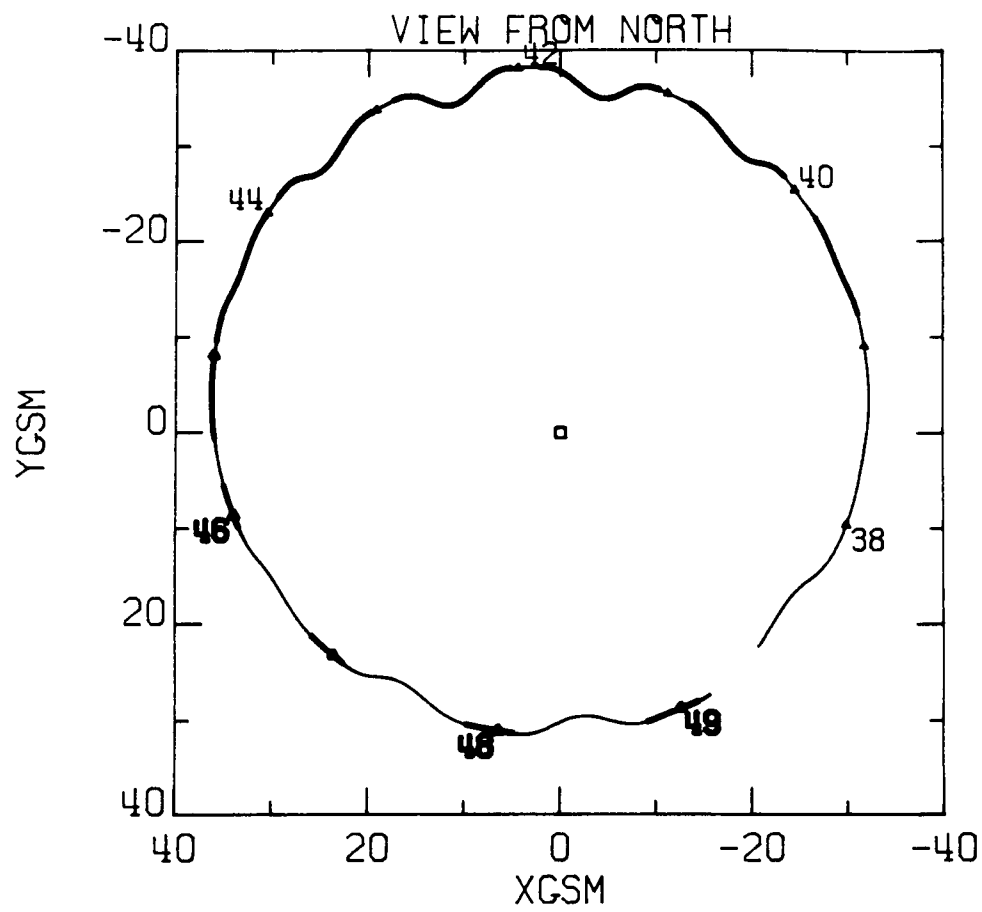
ASCENDING NODE 71

FROM JAN 25 TO FEB 6 1975

DAYS 25 THRU 37



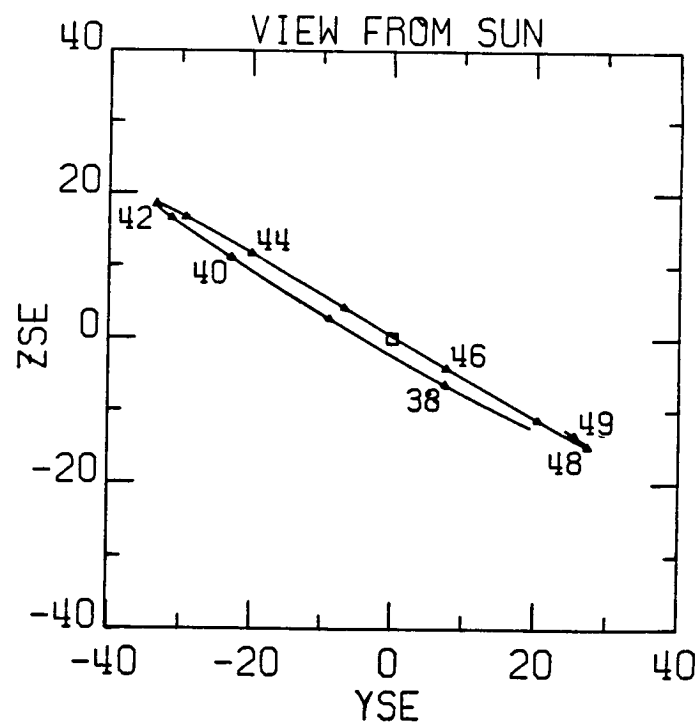
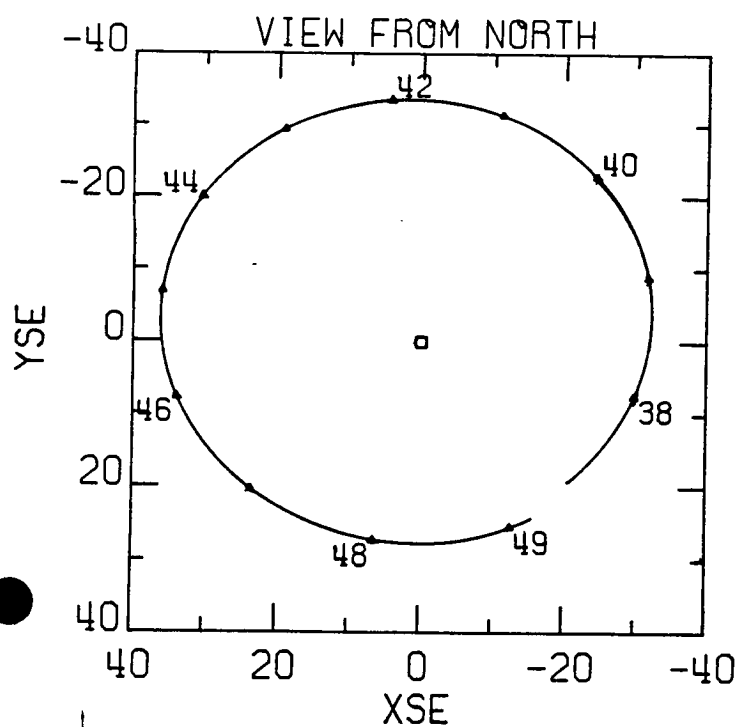
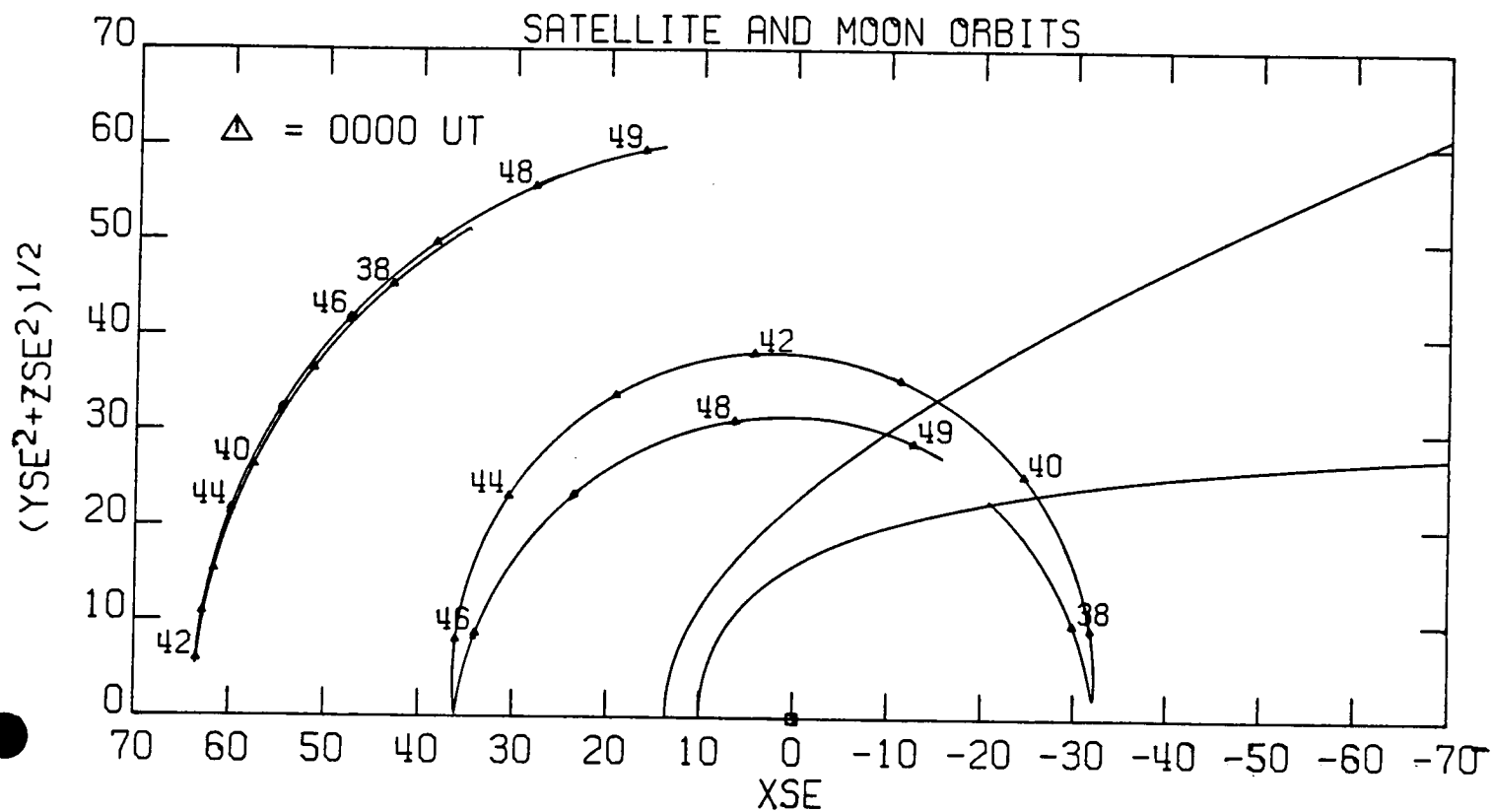
IMP 7 FROM FEB 6 TO FEB 18 1975



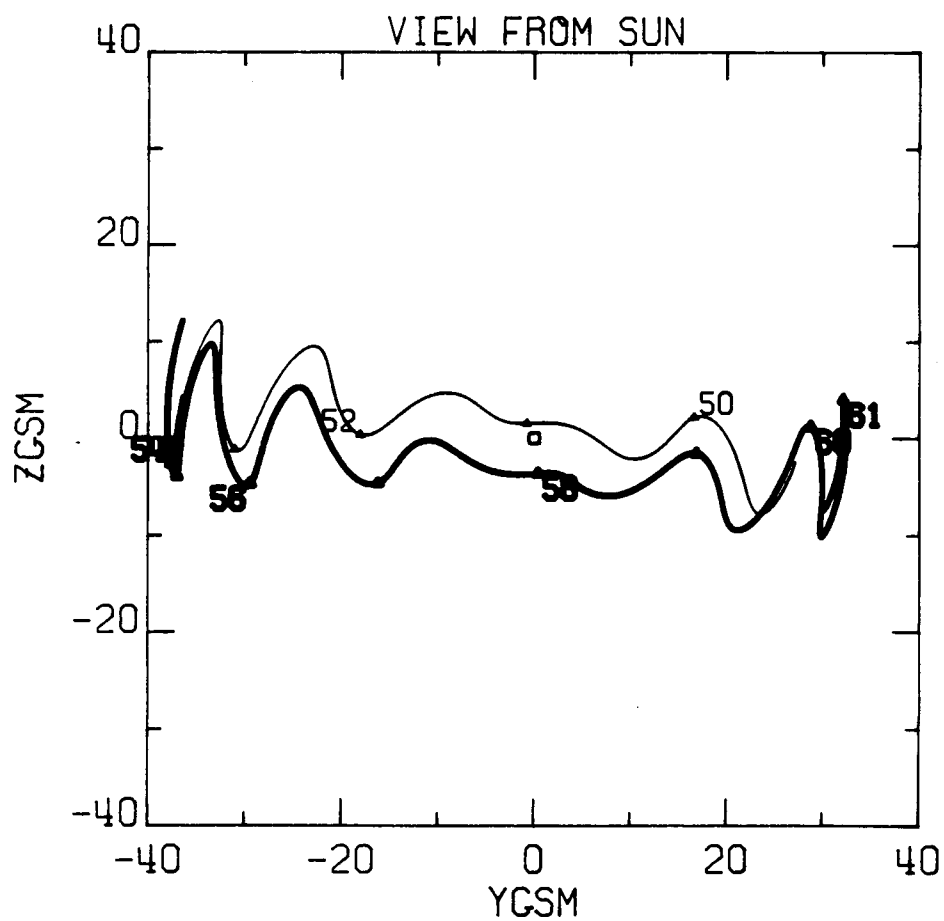
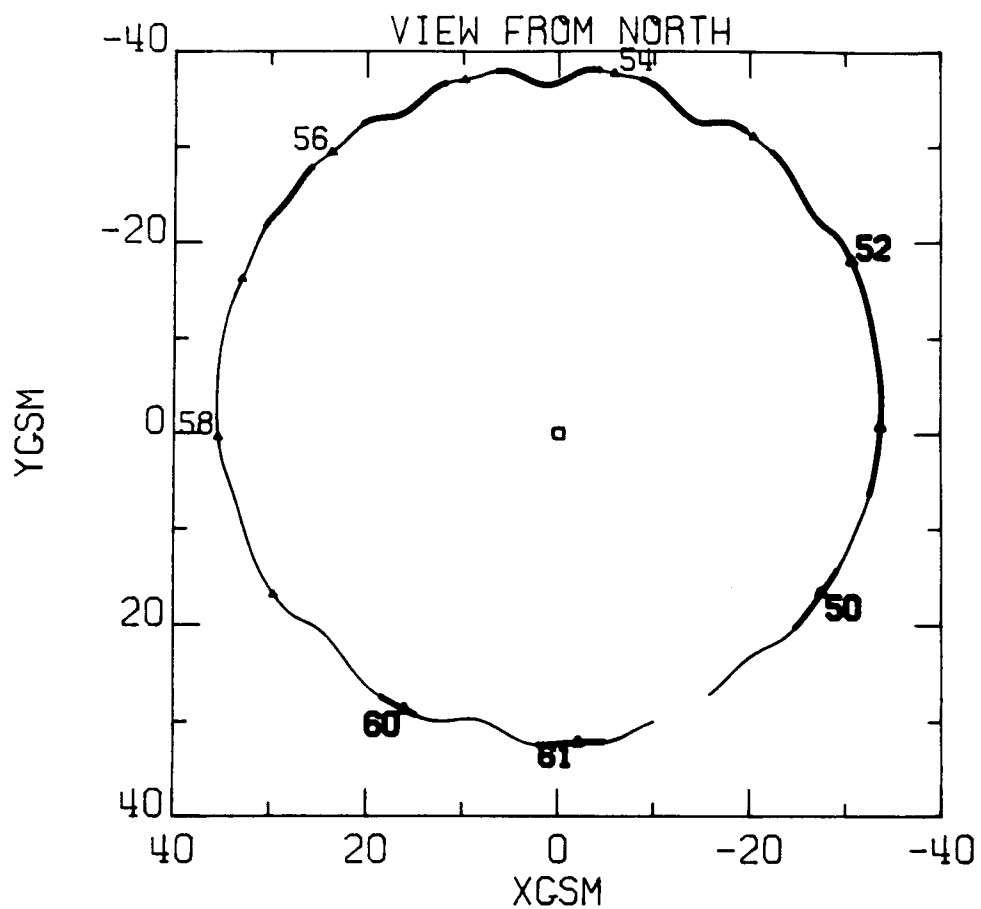
IMP 7 TRAJECTORY. ASCENDING NODE 72

FROM FEB 6 TO FEB 18 1975

DAYS 37 THRU 49



IMP 7 FROM FEB 18 TO MAR 2 1975

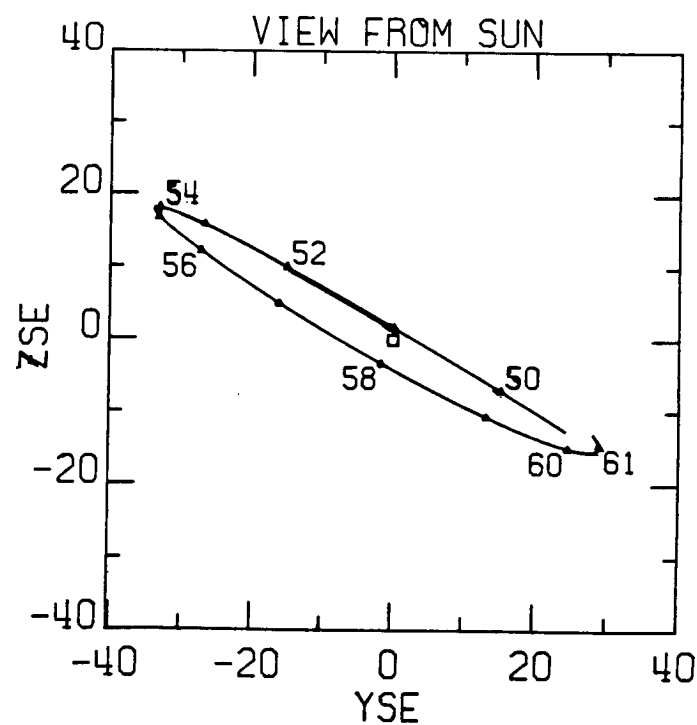
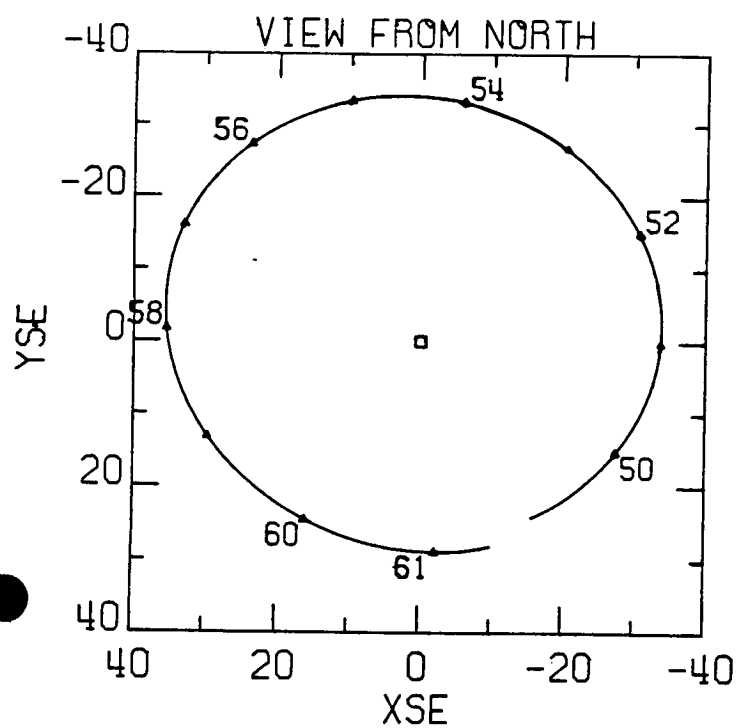
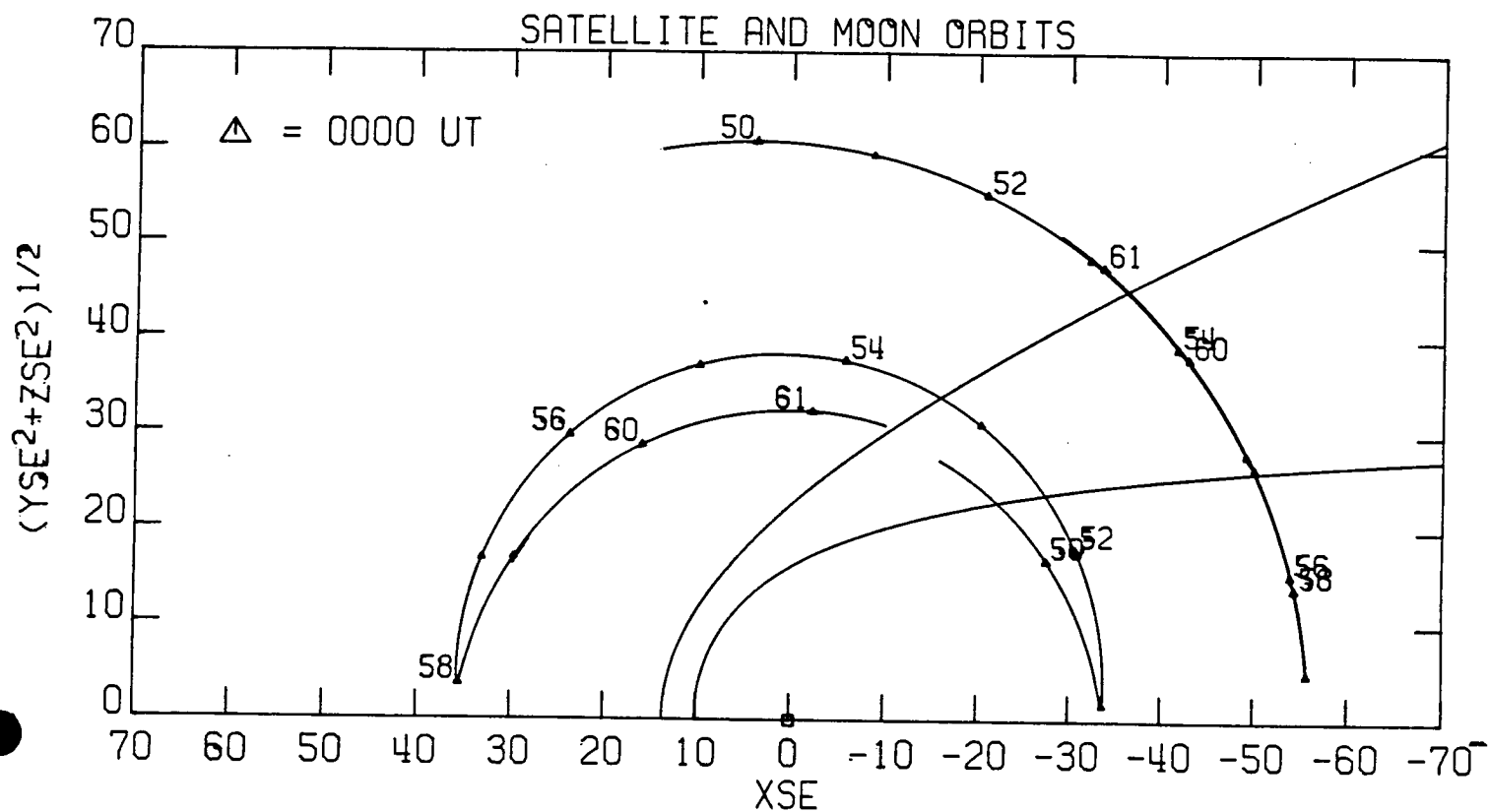


IMP 7 TRAJECTORY.

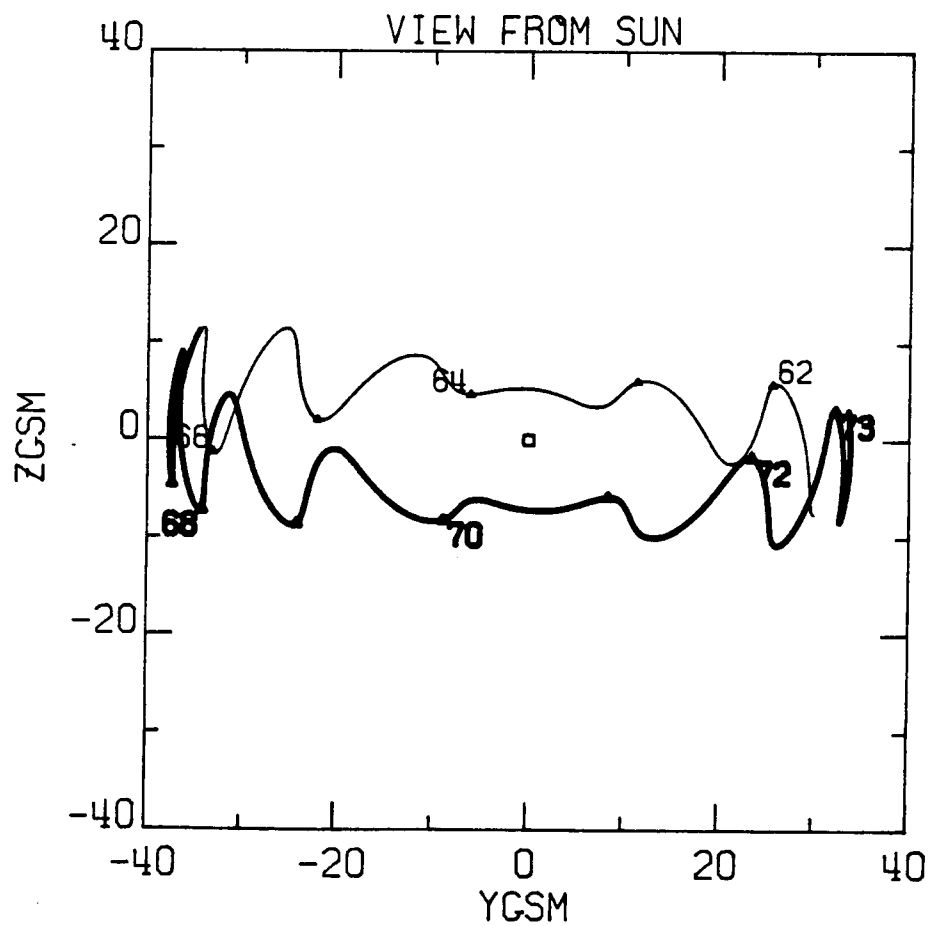
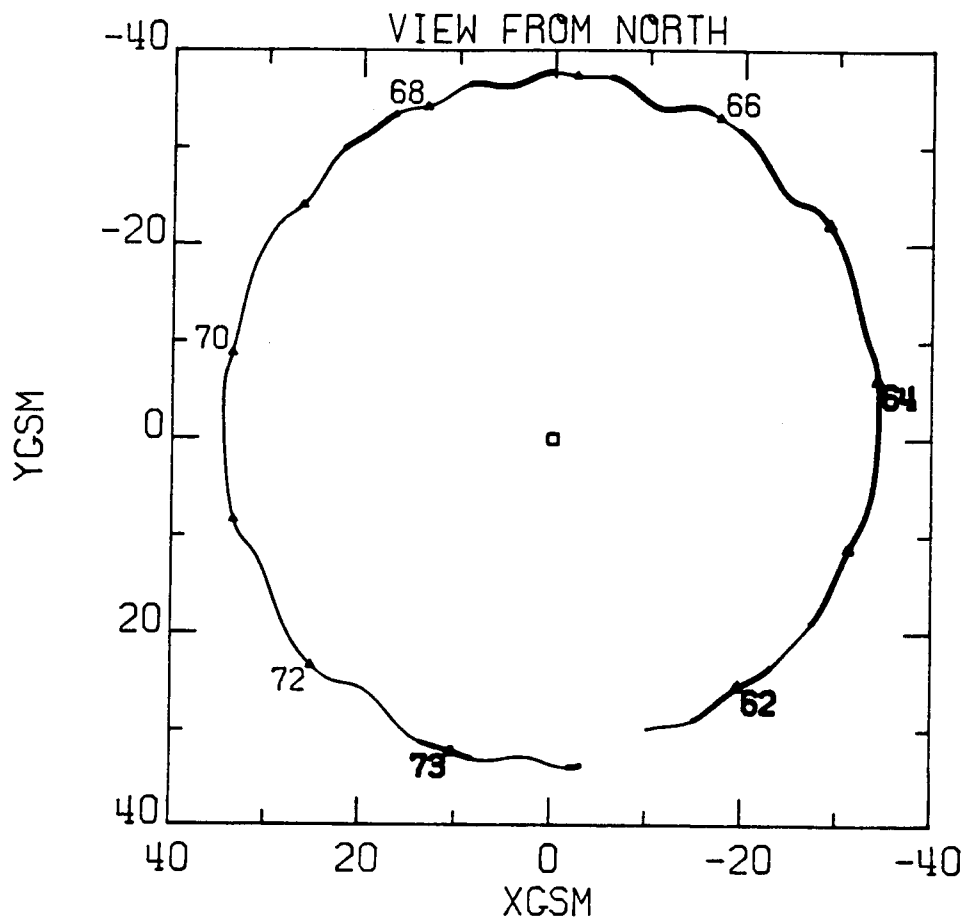
ASCENDING NODE 73

FROM FEB 18 TO MAR 2 1975

DAYS 49 THRU 61



IMP 7 FROM MAR 2 TO MAR 14 1975

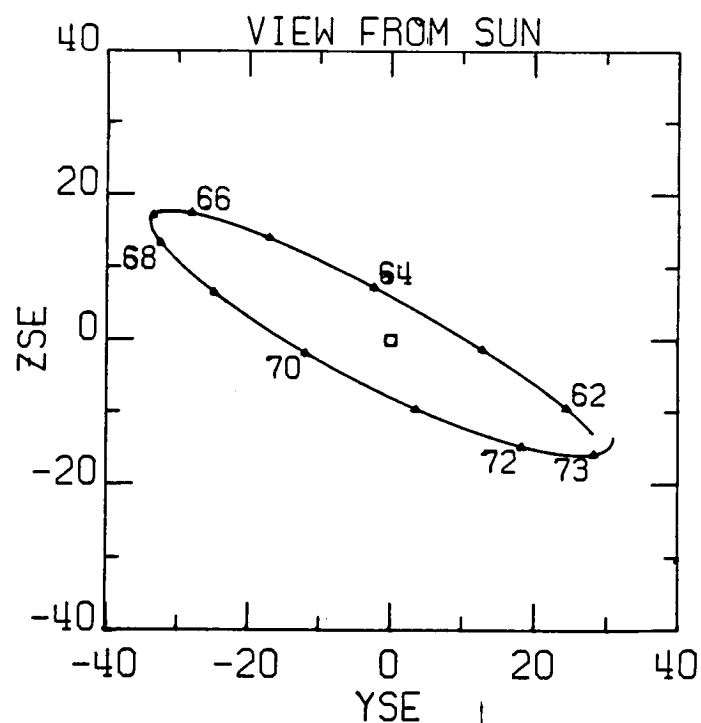
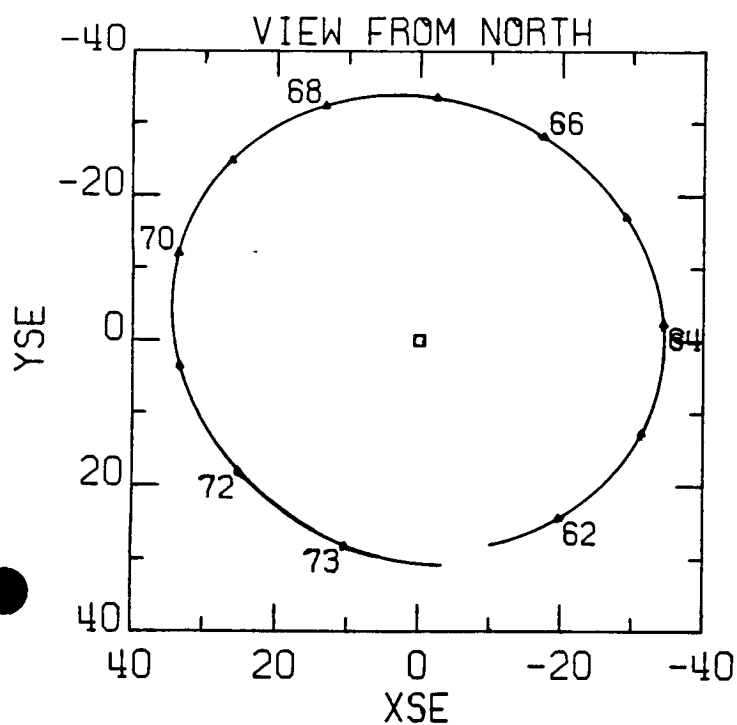
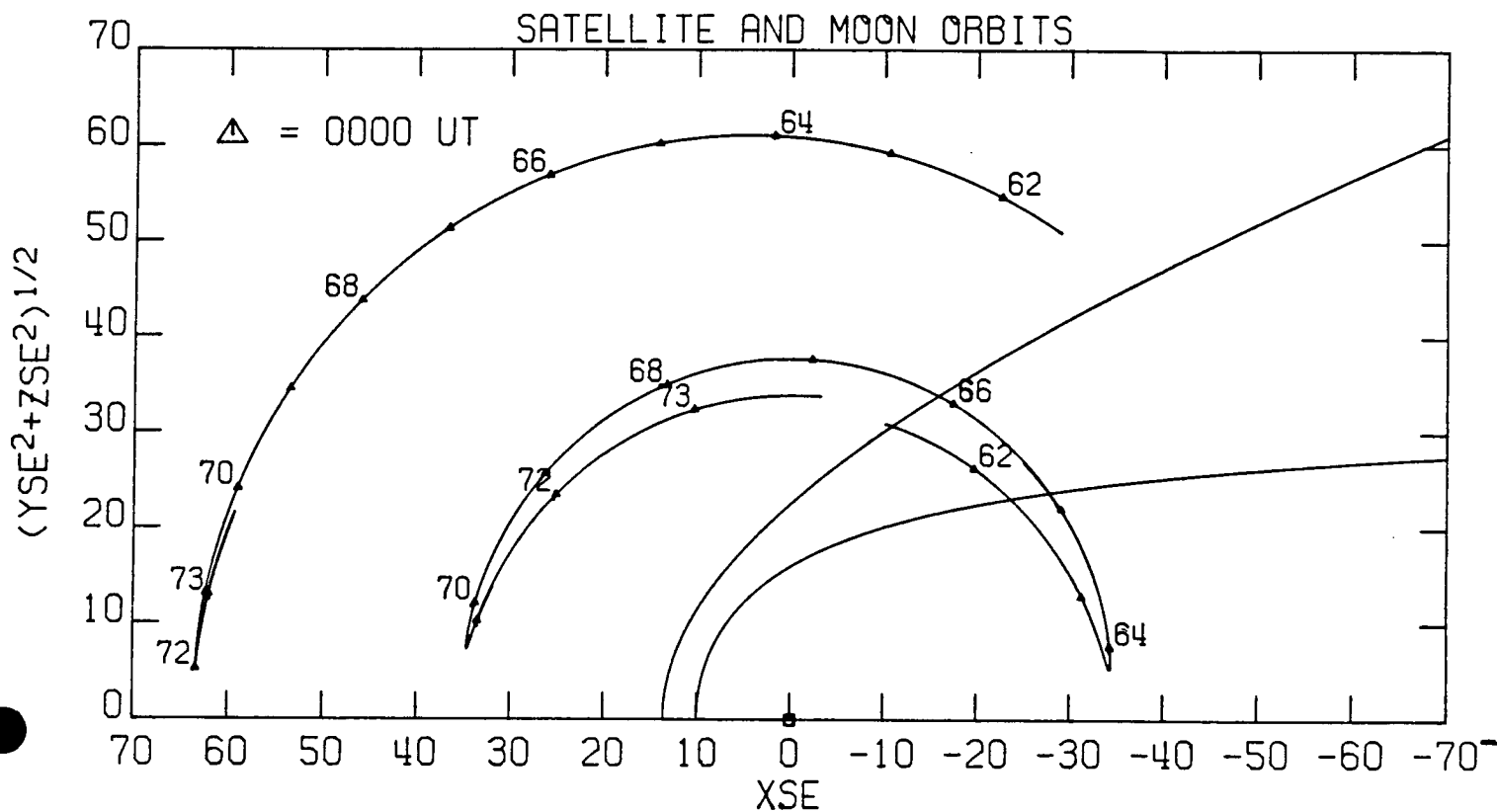


IMP 7 TRAJECTORY.

ASCENDING NODE 74

FROM MAR 2 TO MAR 14 1975

DAYS 61 THRU 73



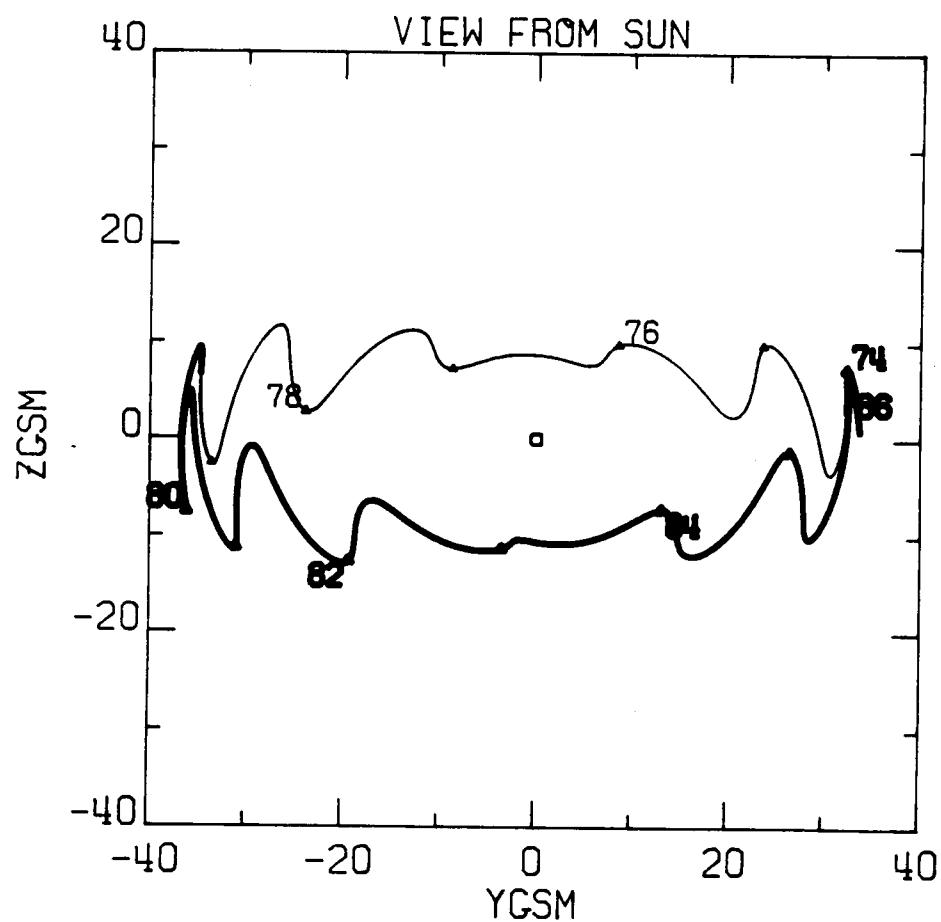
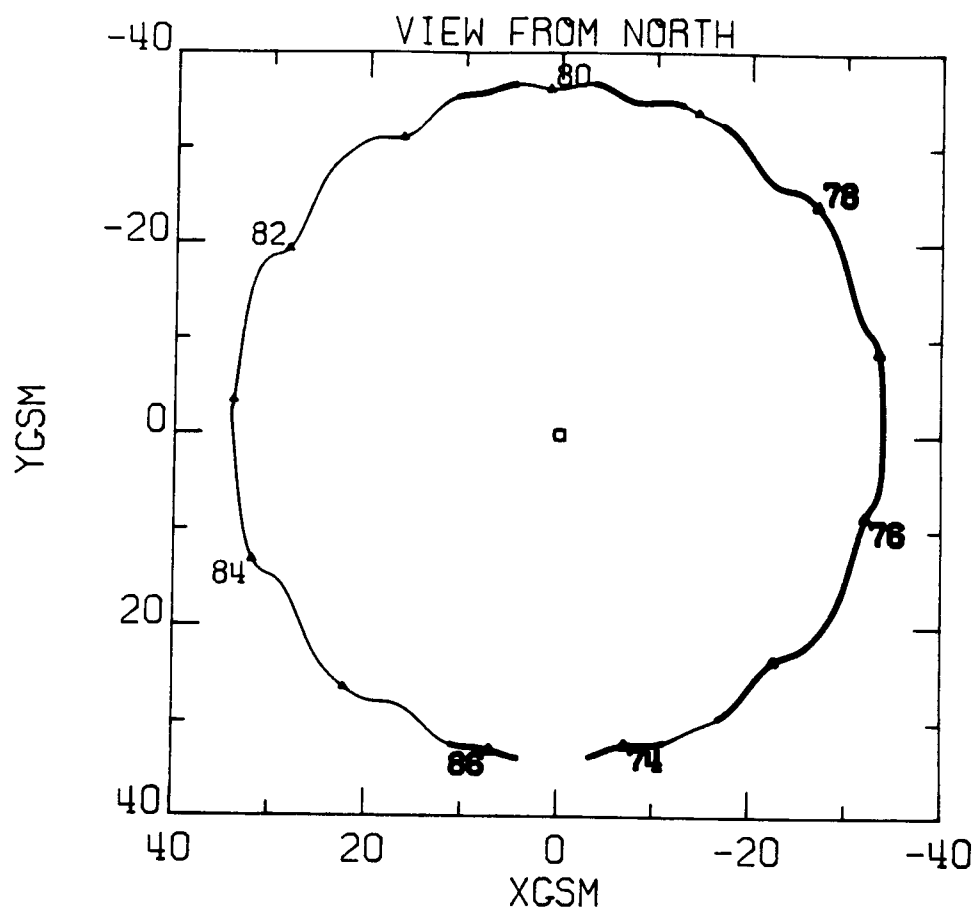
CSRI/IMP/97

M3/14/88

Source: Research

M I T Center for

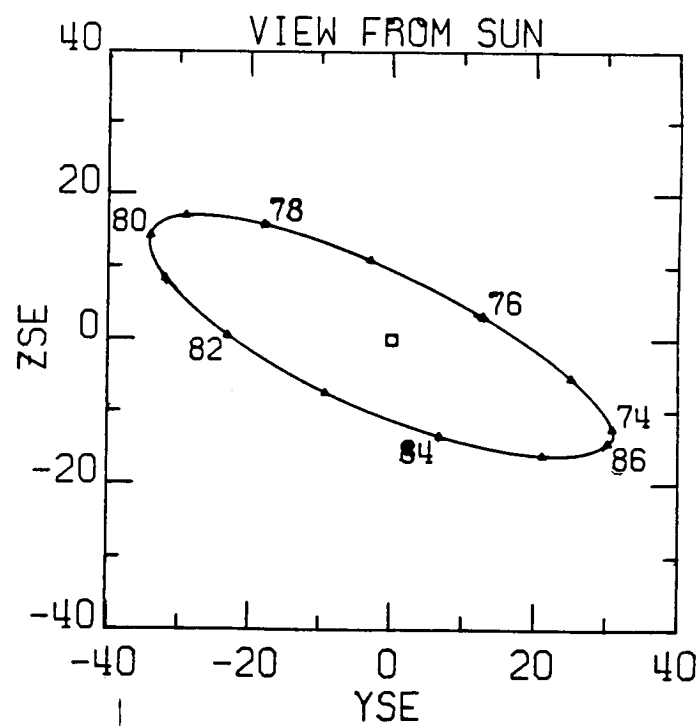
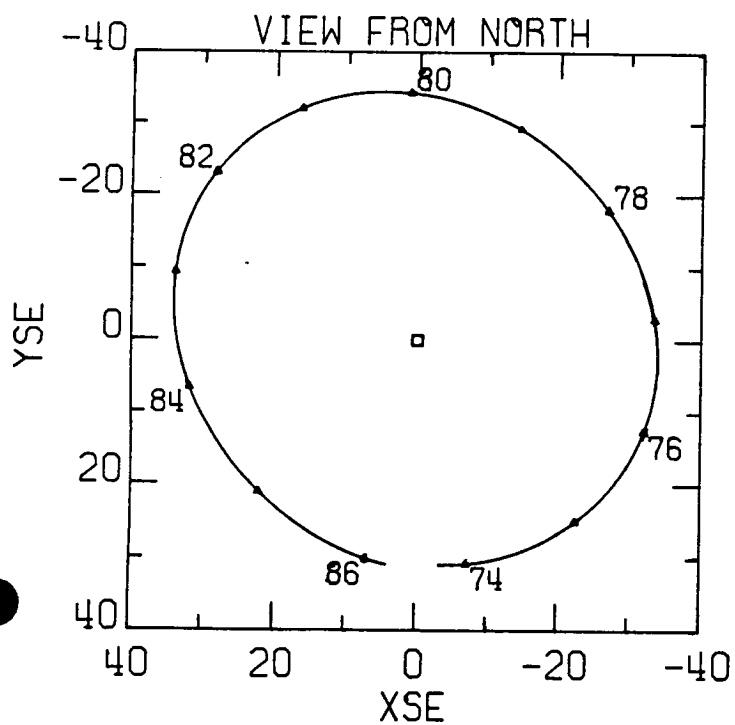
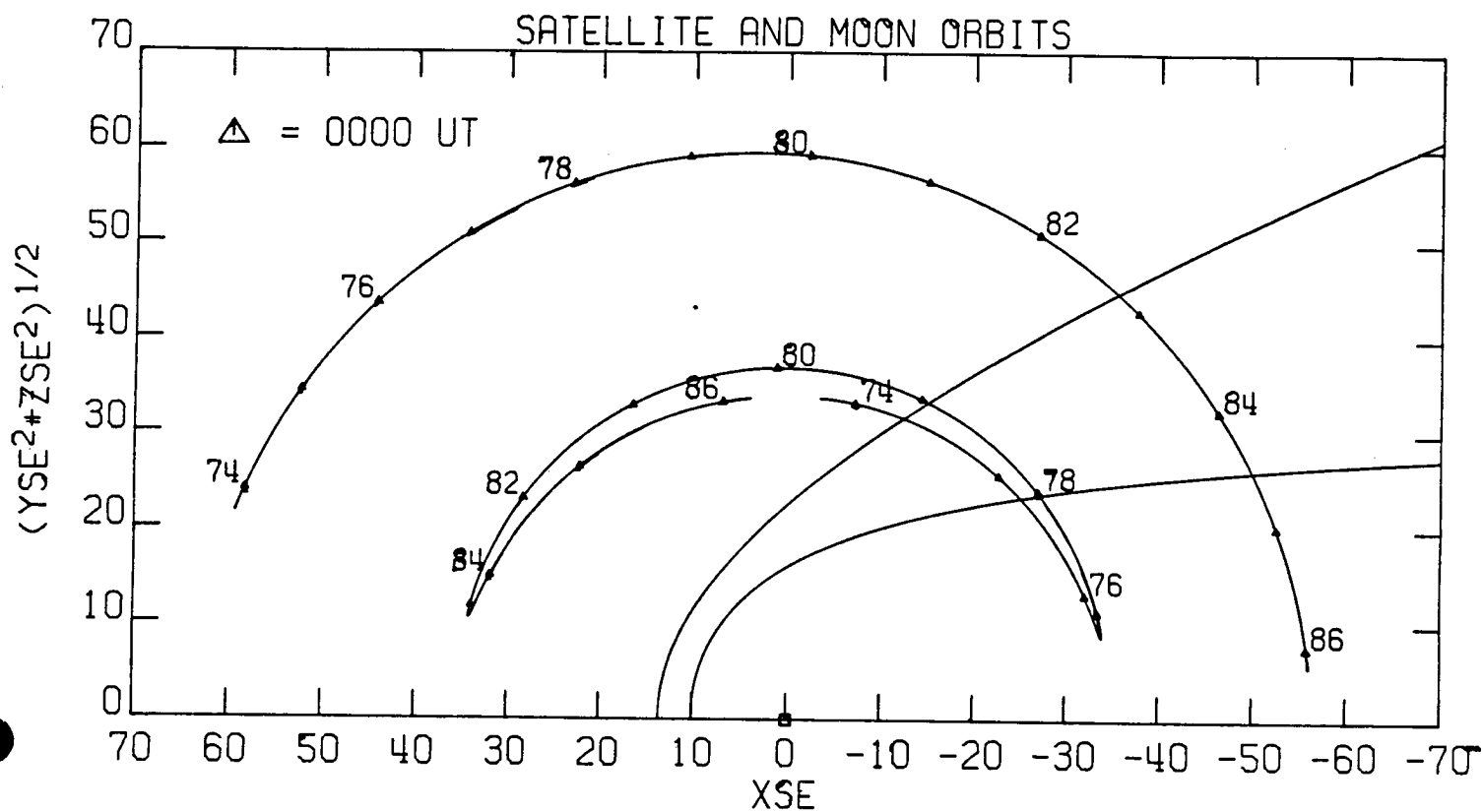
IMP 7 FROM MAR 14 TO MAR 27 1975



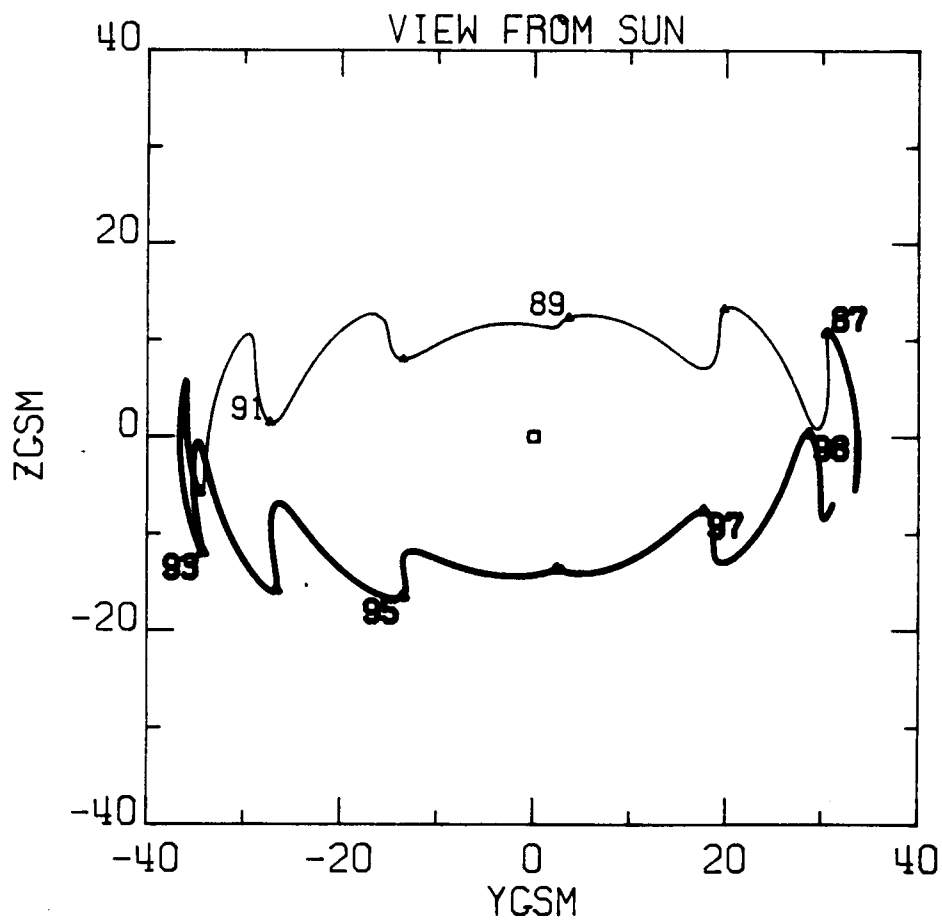
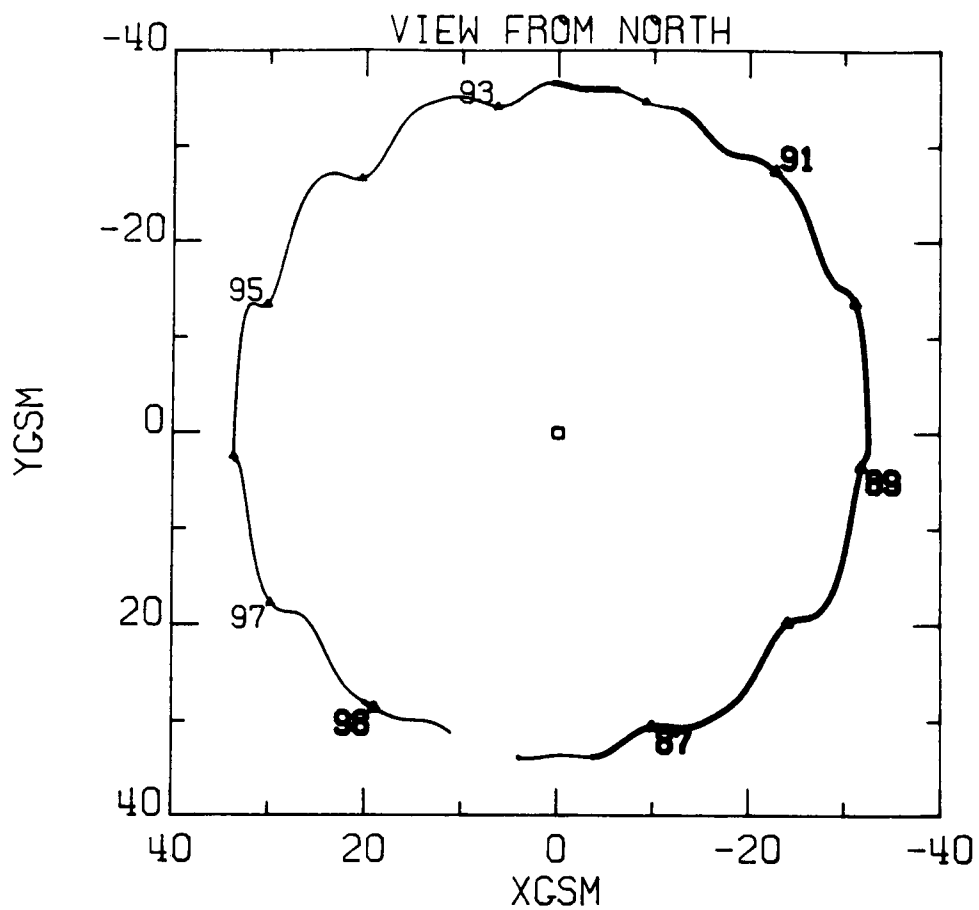
IMP 7 TRAJECTORY. ASCENDING NODE 75

FROM MAR 14 TO MAR 27 1975

DAYS 73 THRU 86



IMP 7 FROM MAR 27 TO APR 8 1975

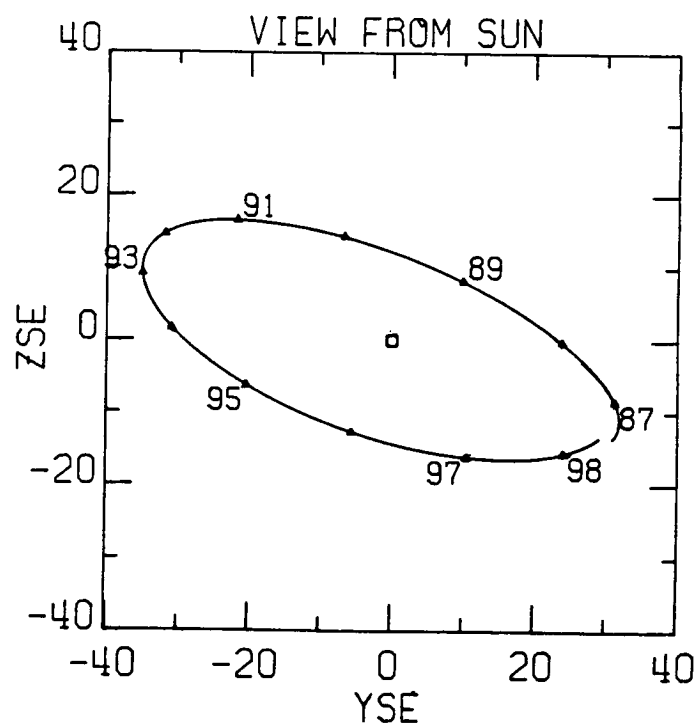
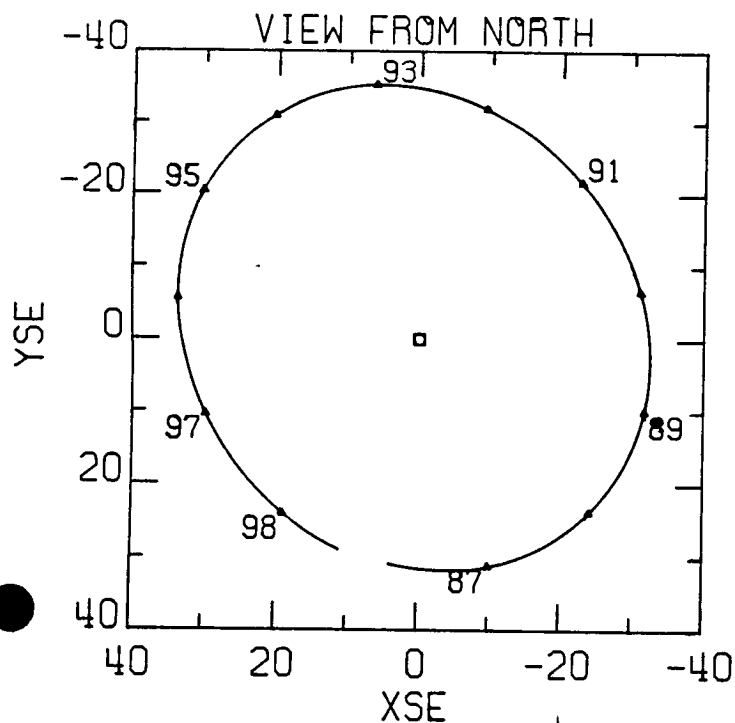
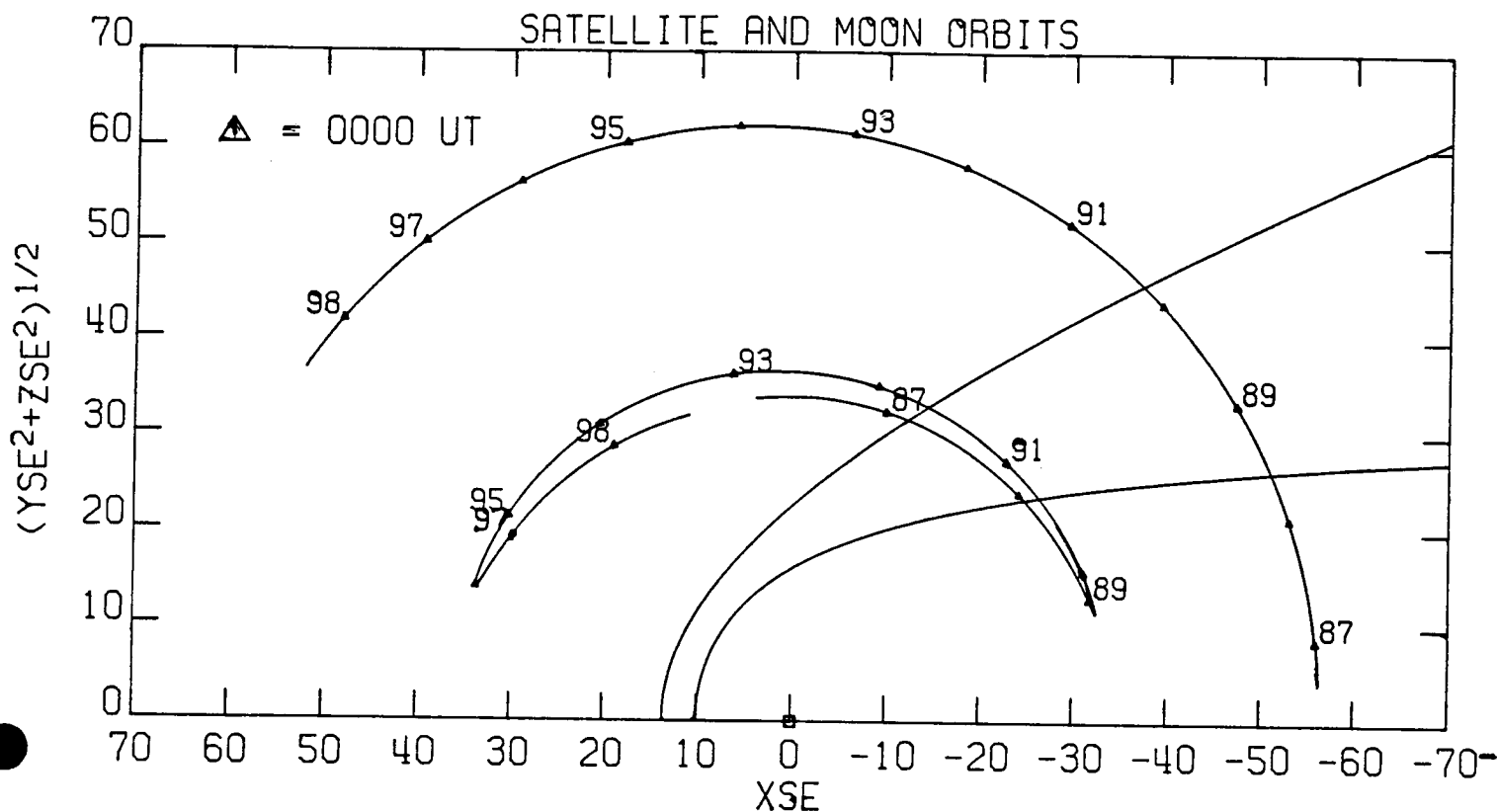


IMP 7 TRAJECTORY.

ASCENDING NODE 76

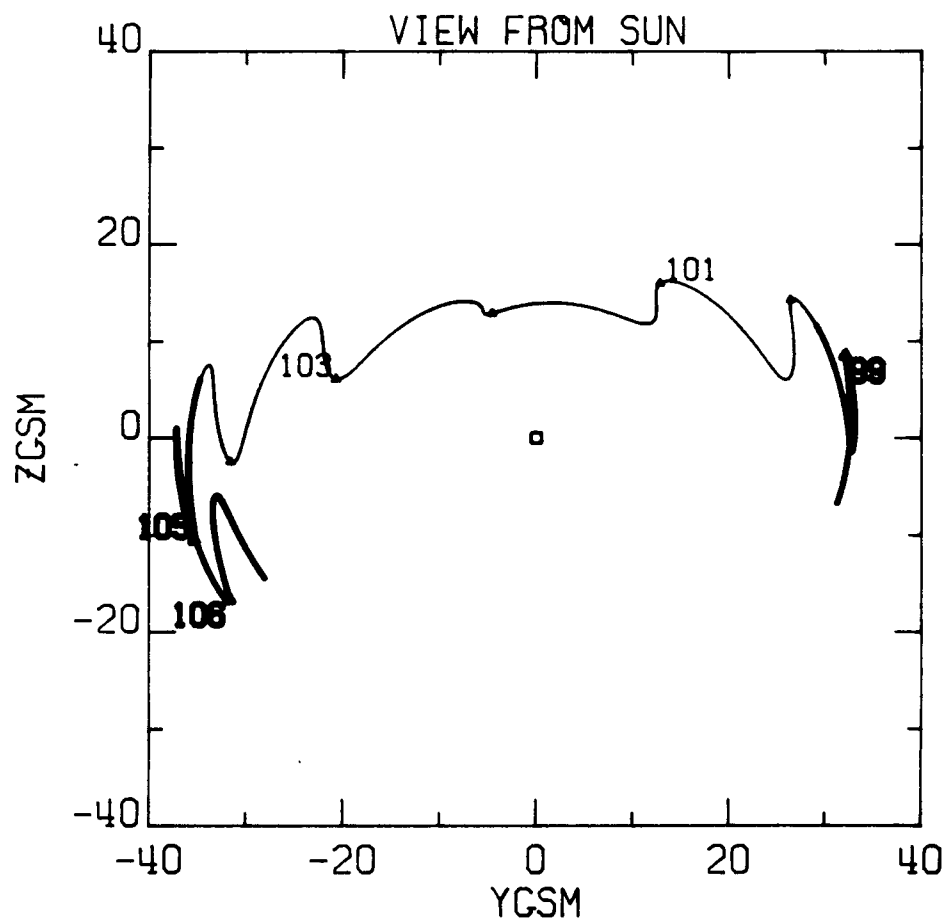
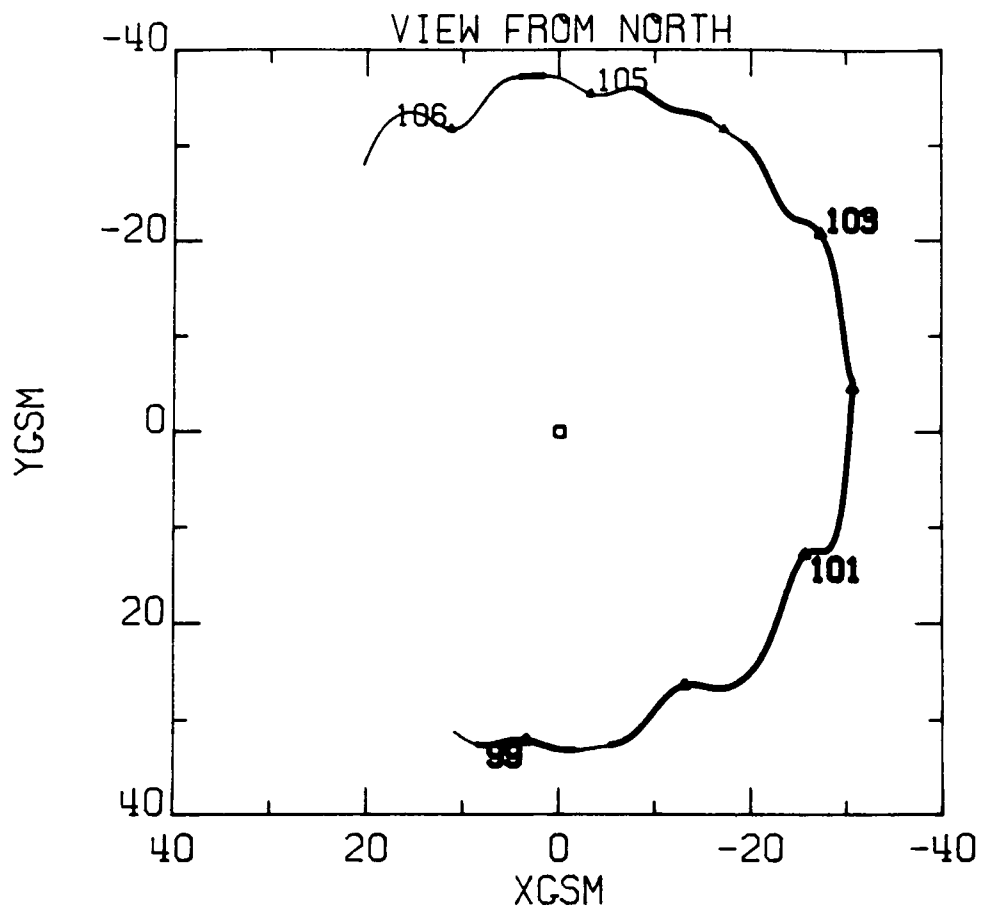
FROM MAR 27 TO APR 8 1975

DAYS 86 THRU 98



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IMP 7 FROM APR 8 TO APR 20 1975

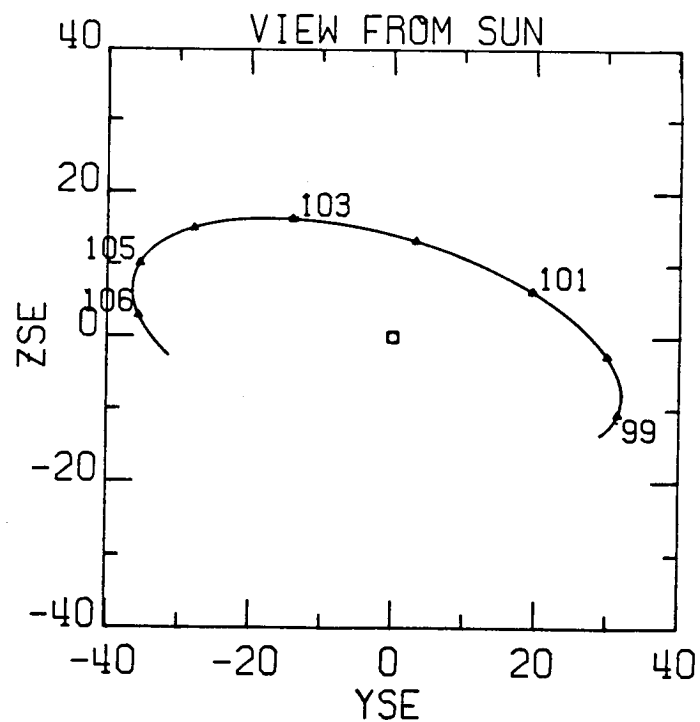
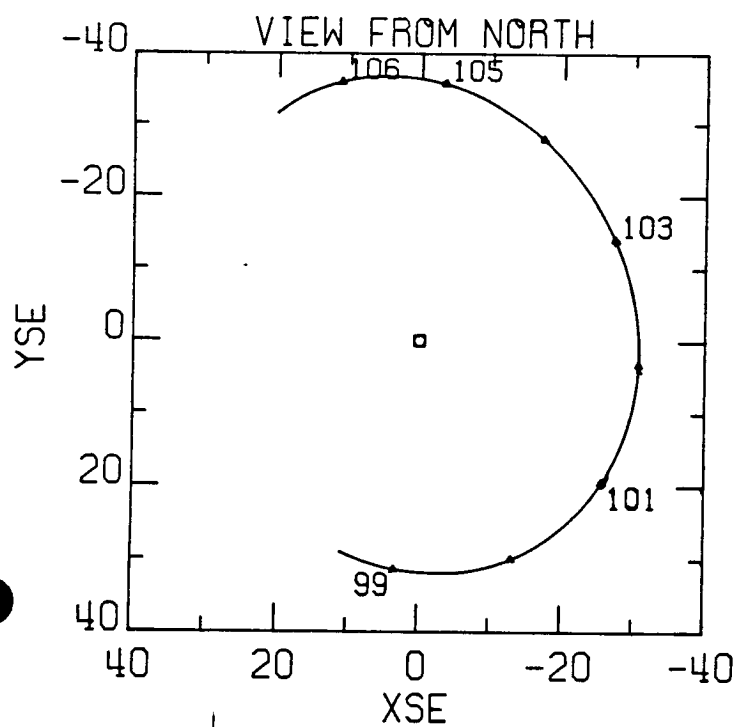
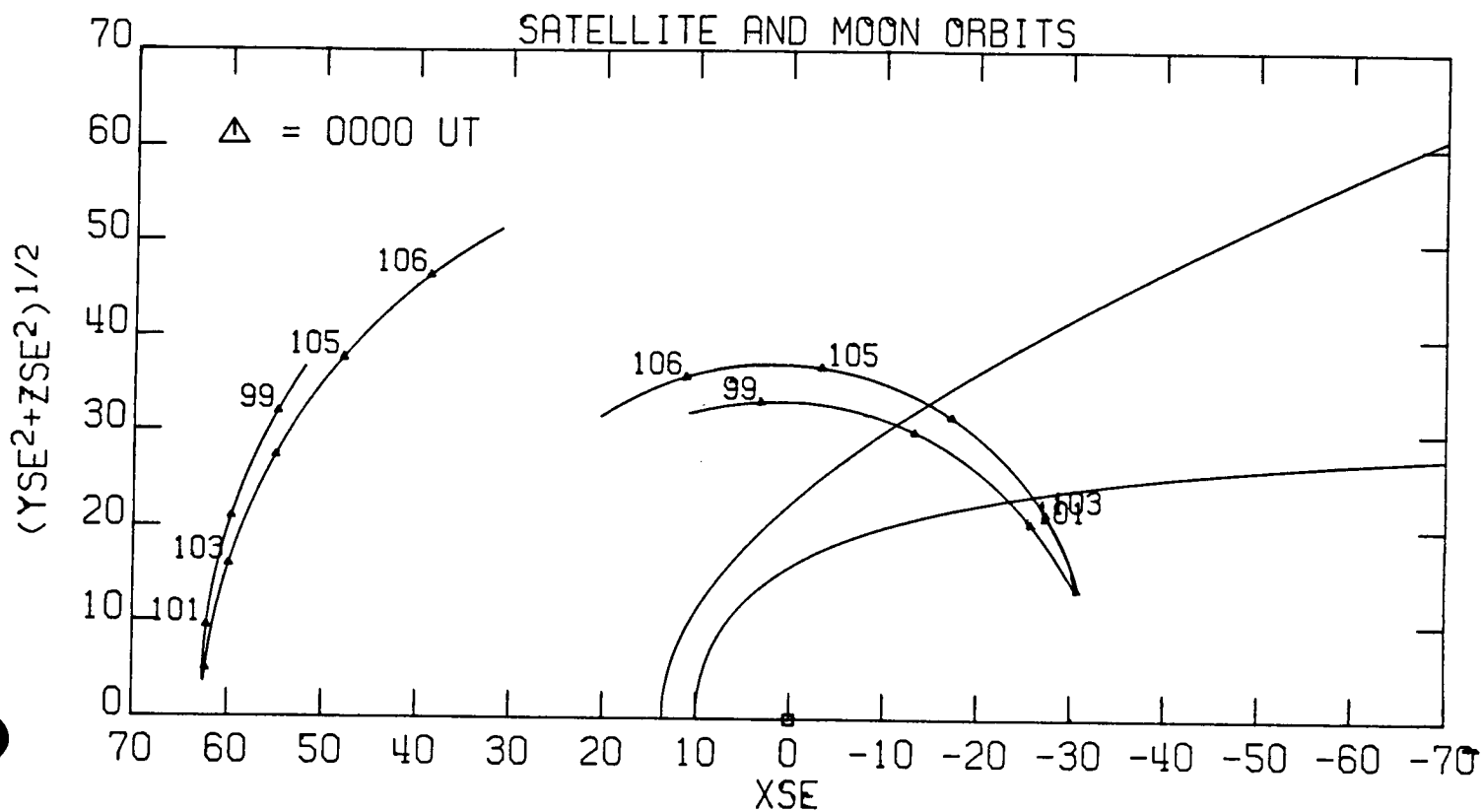


IMP 7 TRAJECTORY.

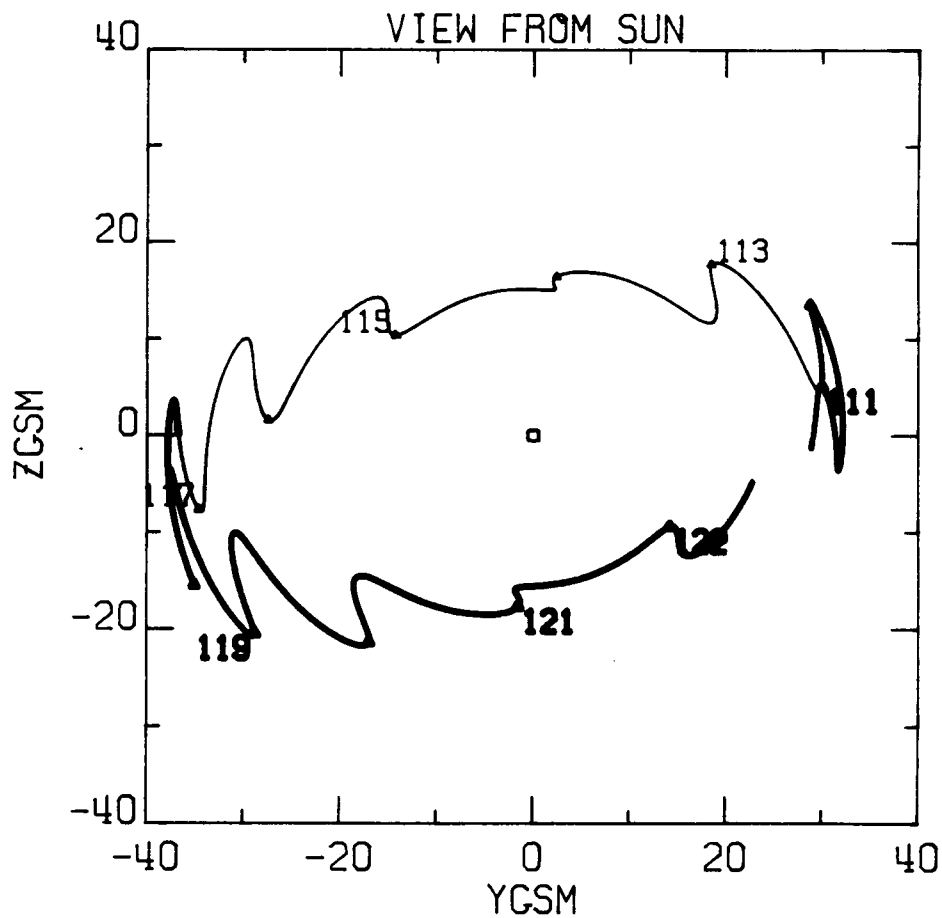
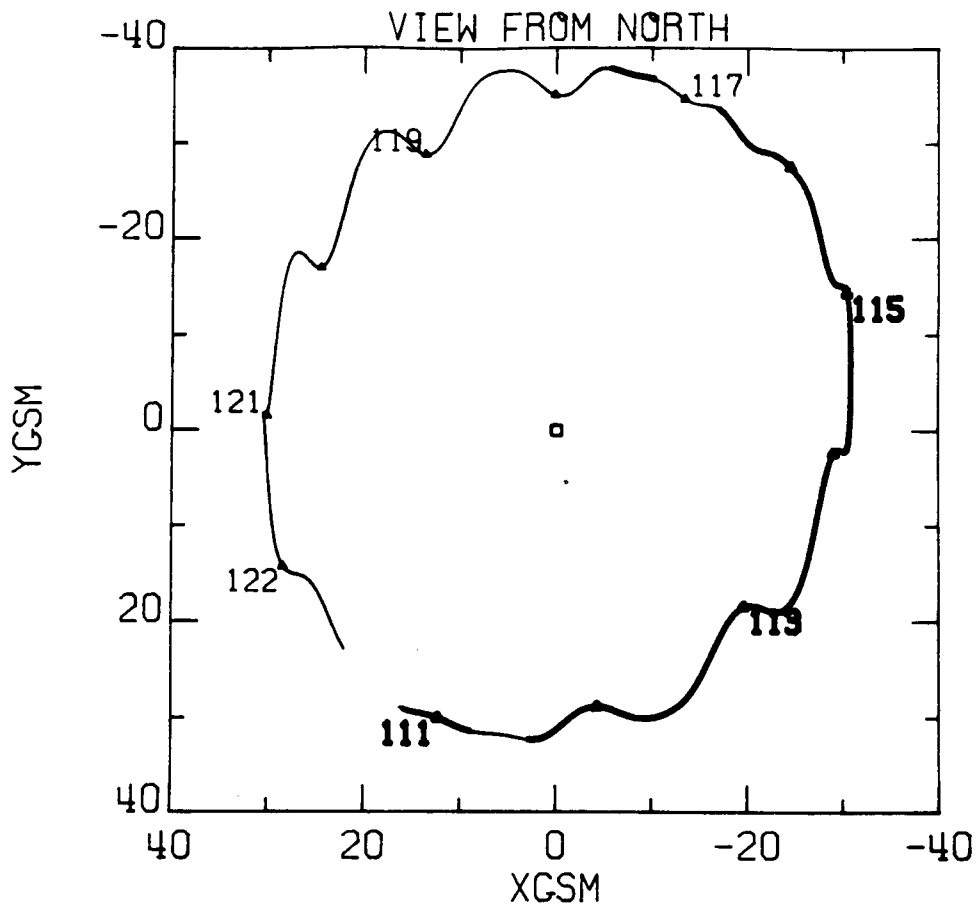
ASCENDING NODE 77

FROM APR 8 TO APR 20 1975

DAYS 98 THRU 106



IMP 7 FROM APR 20 TO MAY 2 1975

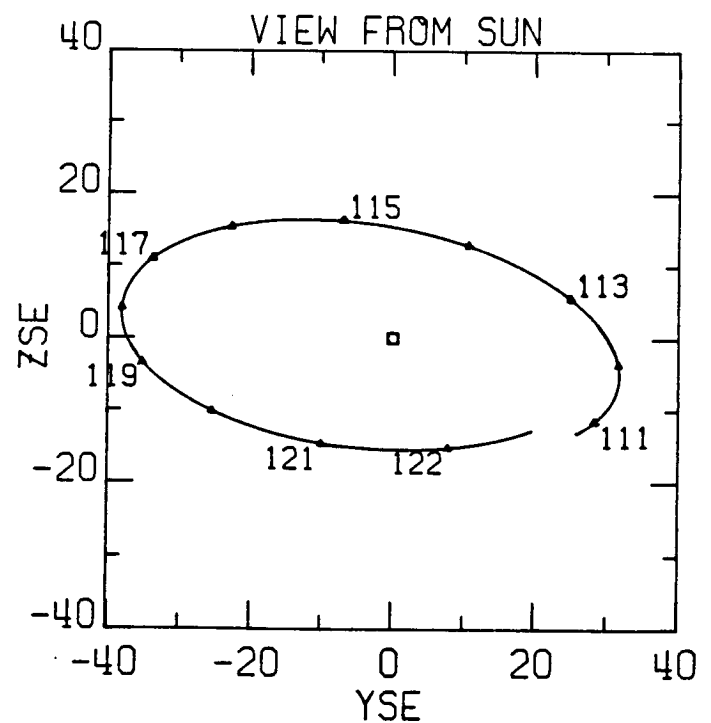
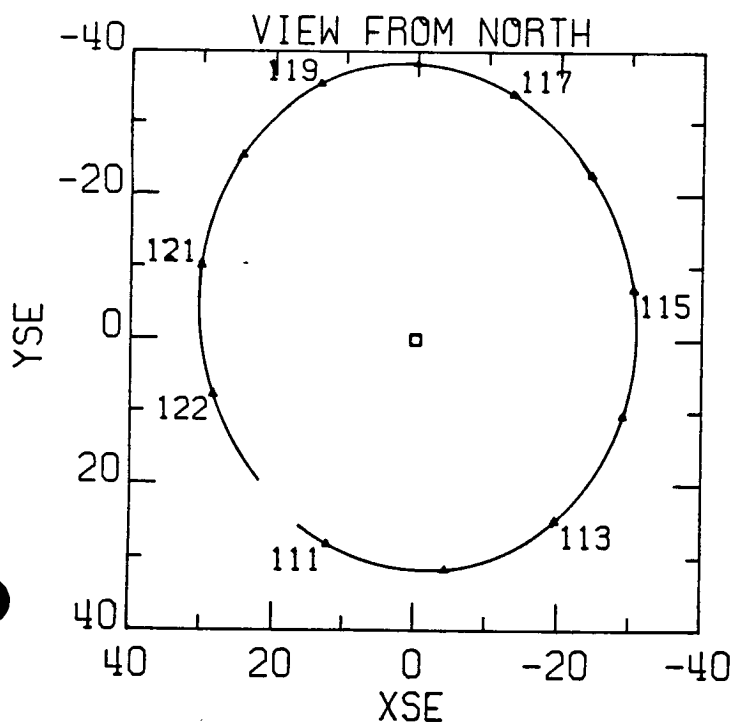
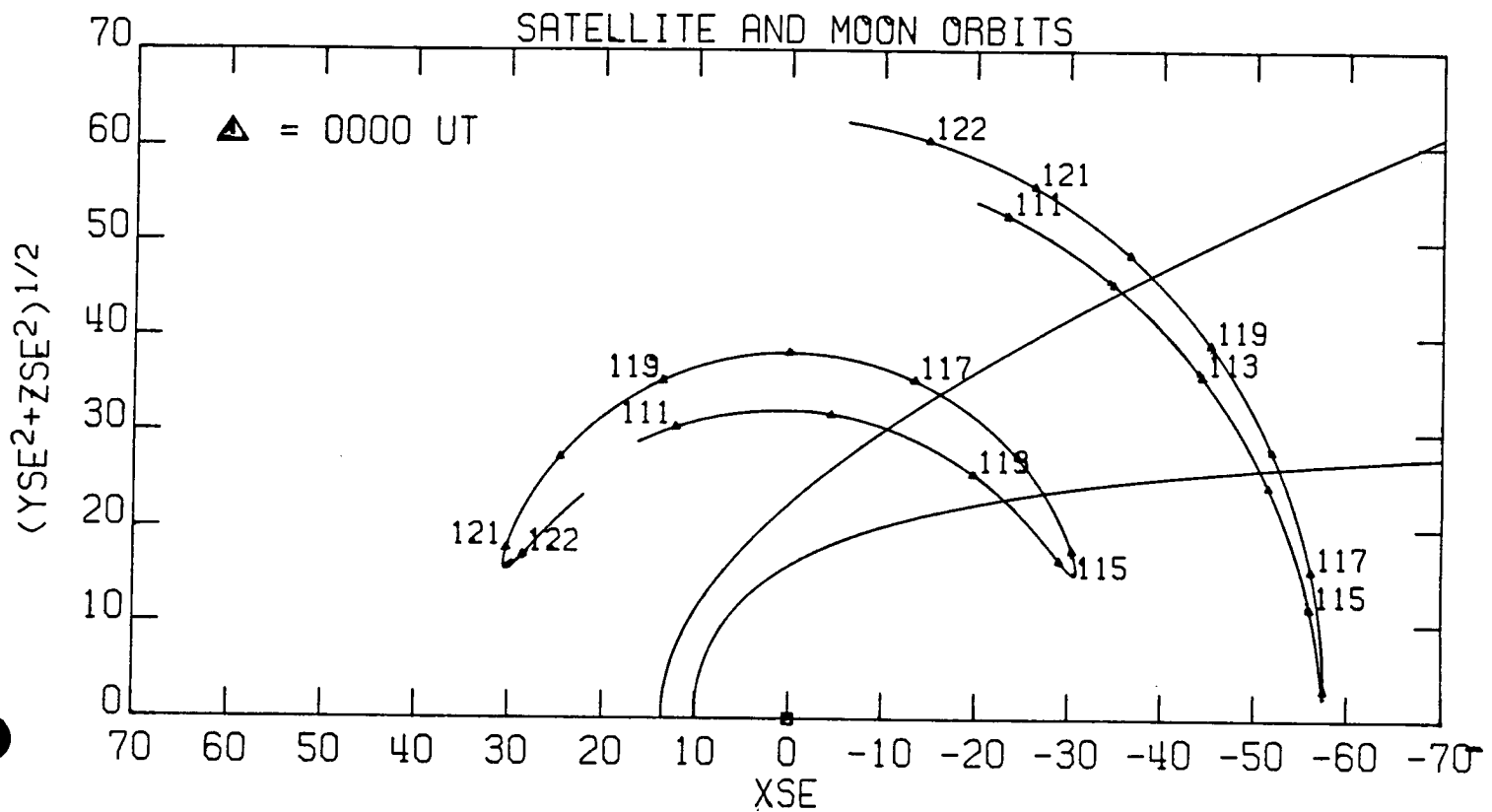


IMP 7 TRAJECTORY.

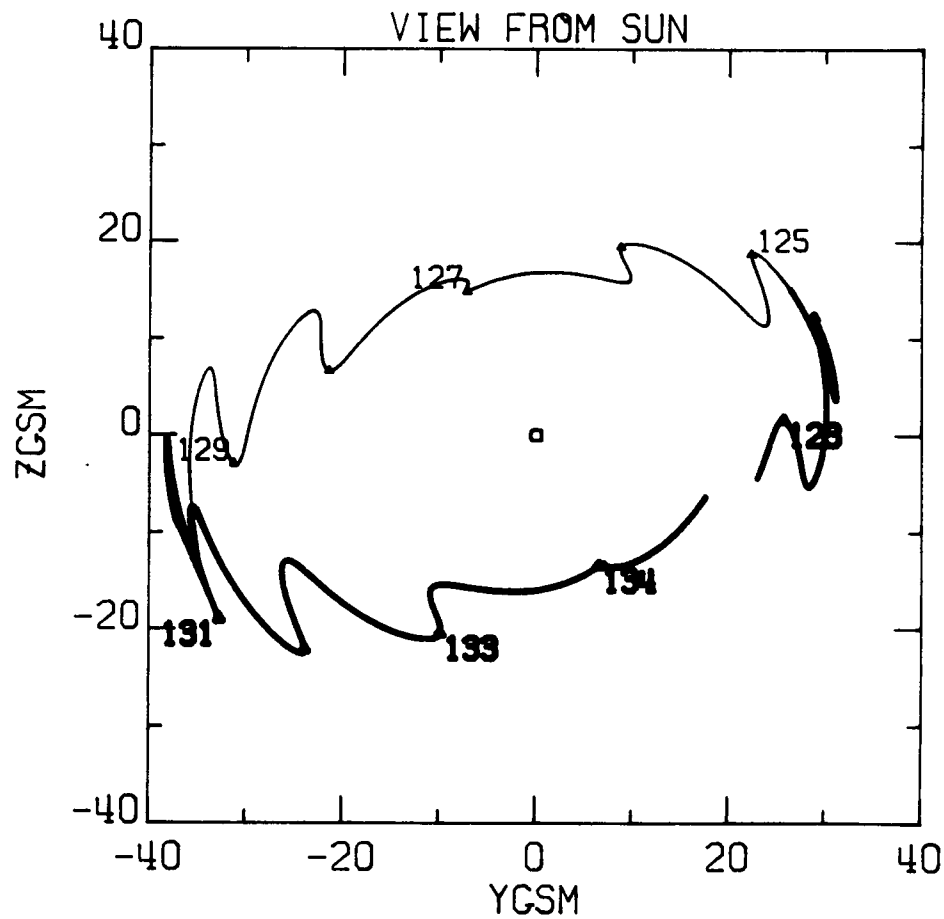
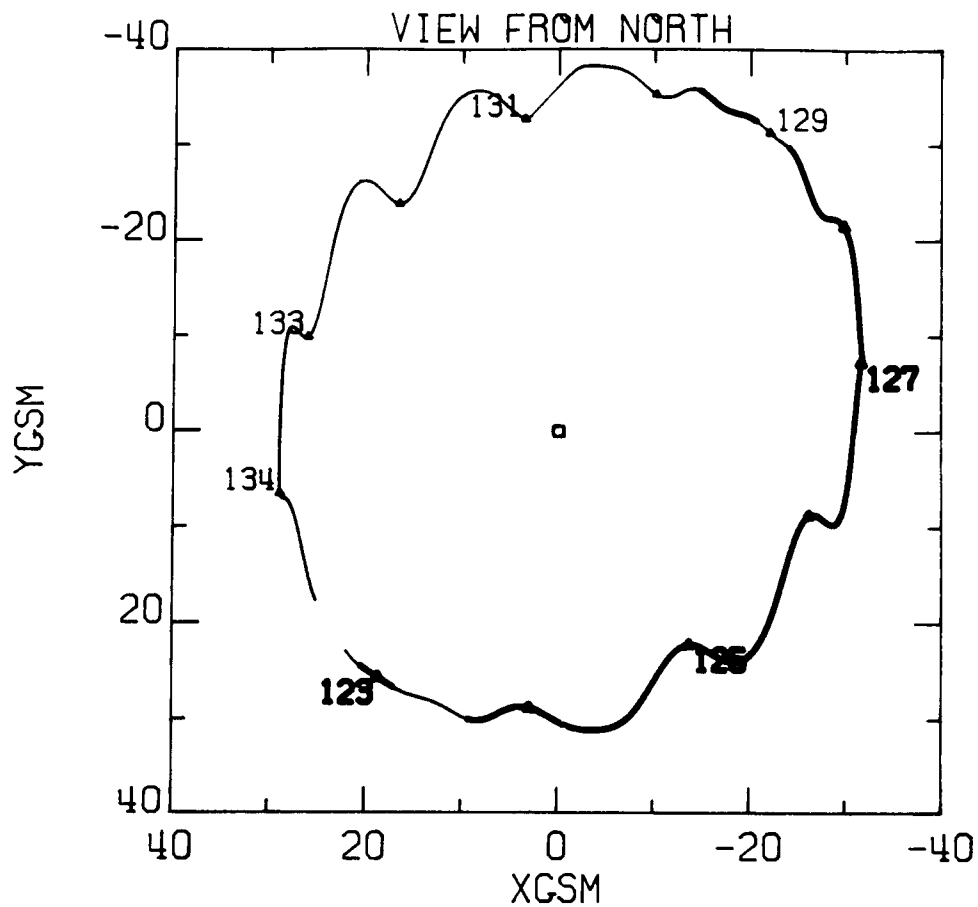
ASCENDING NODE 78

FROM APR 20 TO MAY 2 1975

DAYS 110 THRU 122



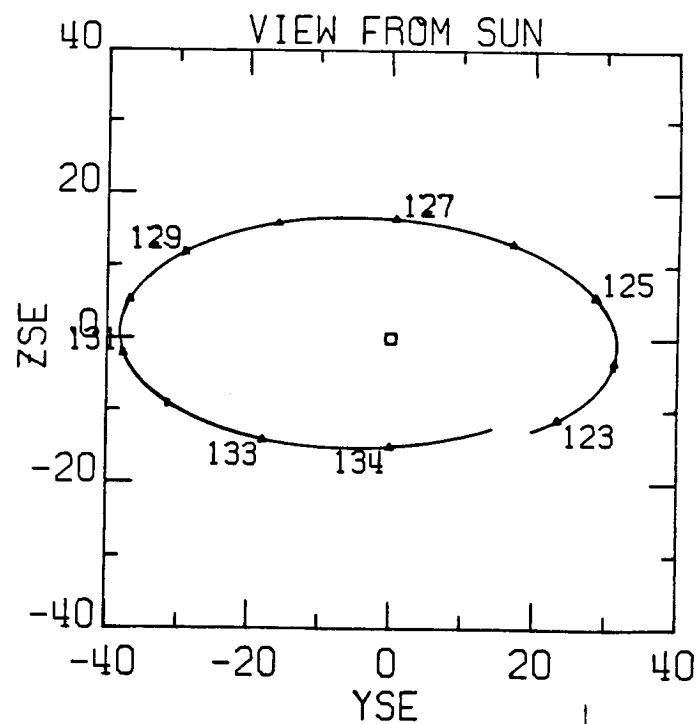
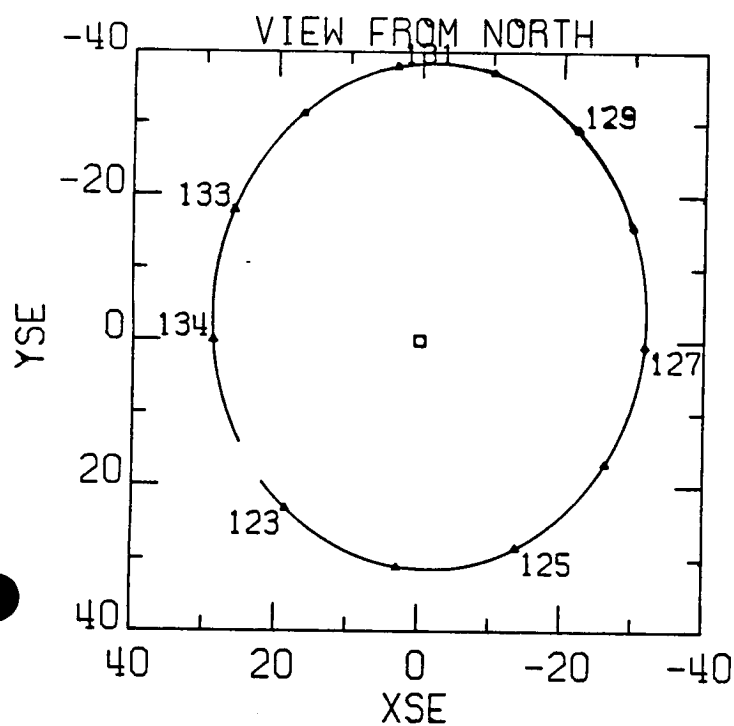
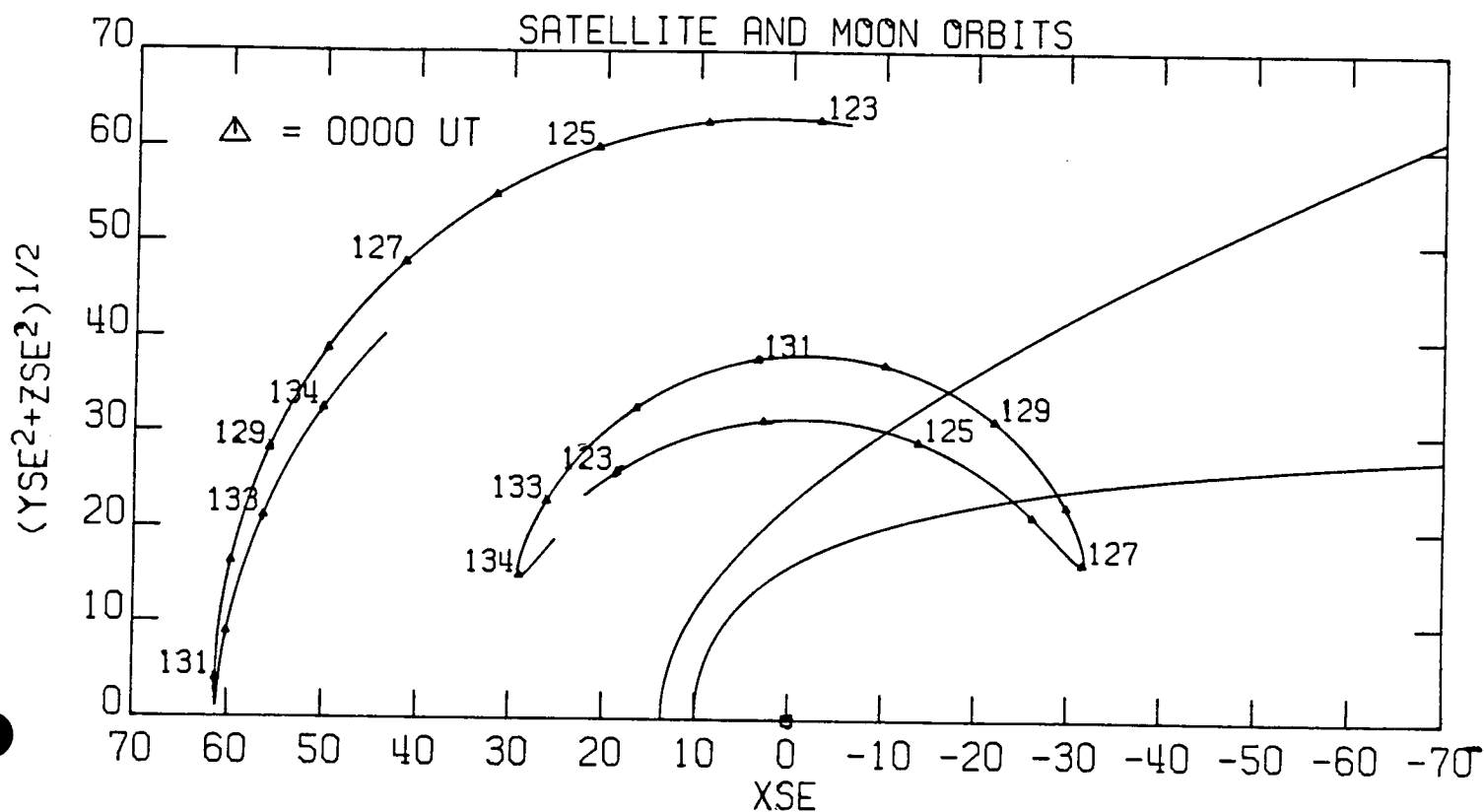
IMP 7 FROM MAY 2 TO MAY 14 1975



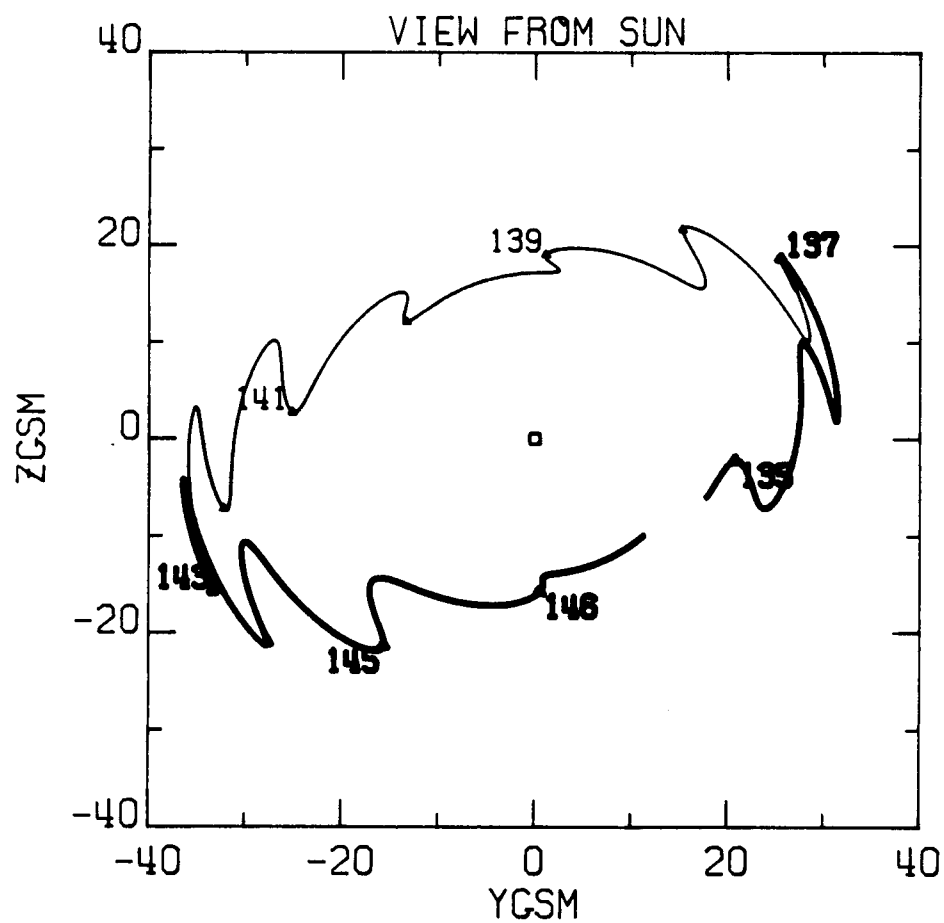
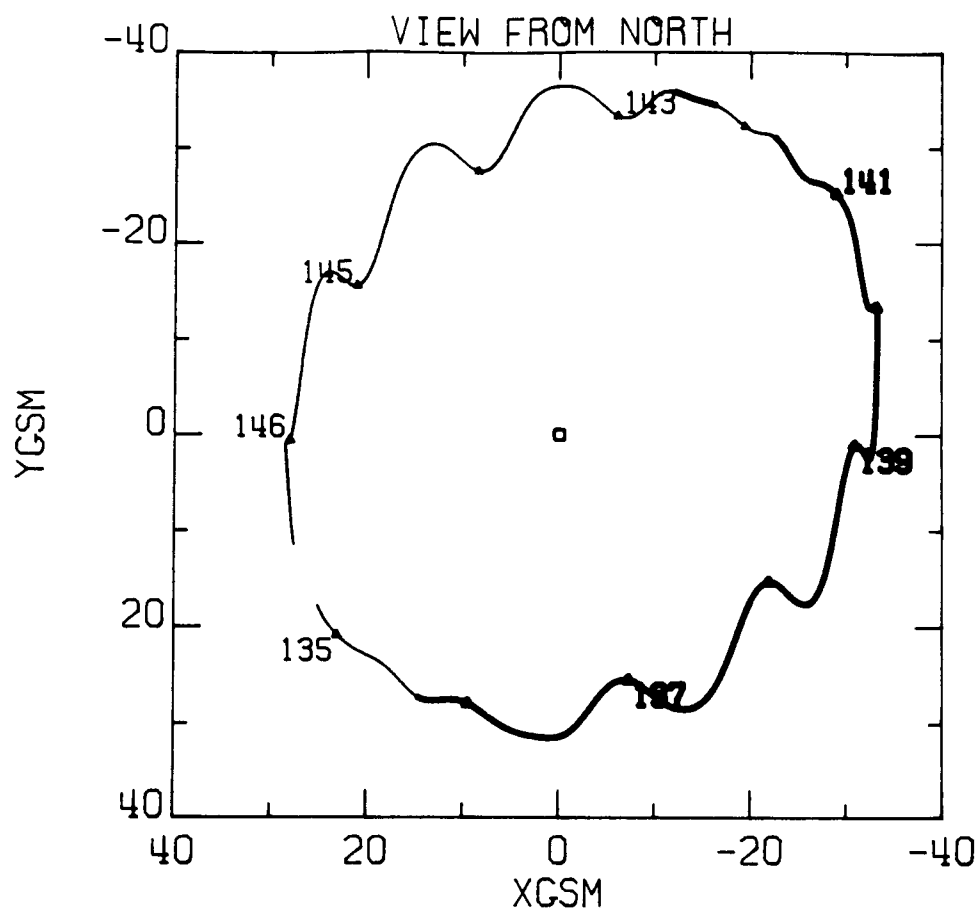
IMP 7 TRAJECTORY. ASCENDING NODE 79

FROM MAY 2 TO MAY 14 1975

DAYS 122 THRU 134



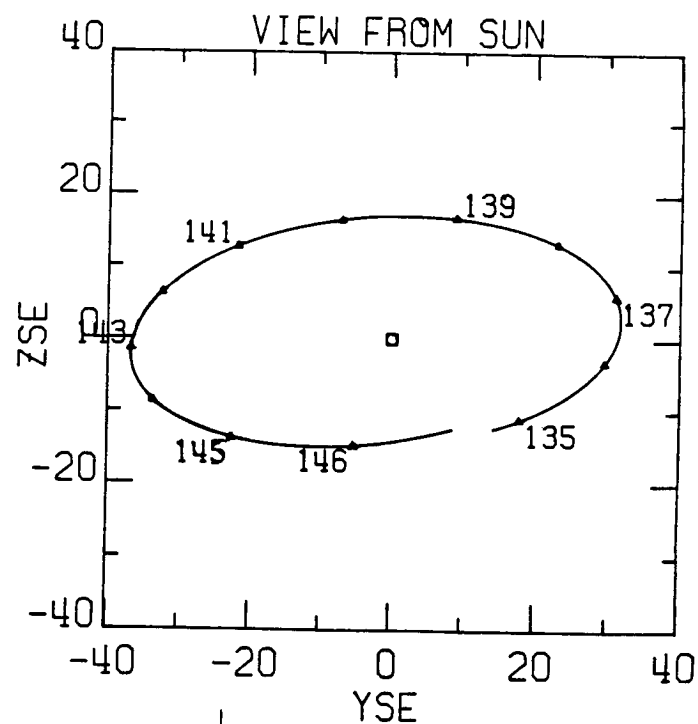
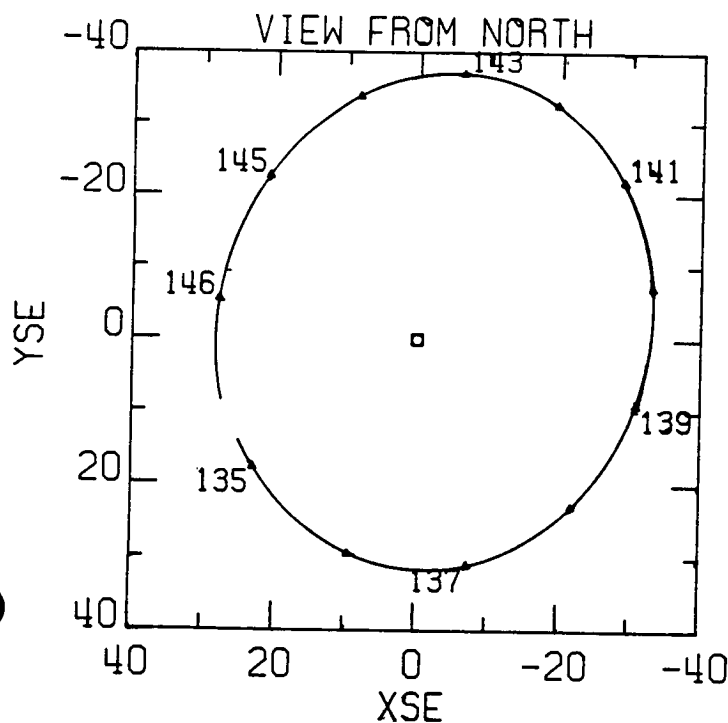
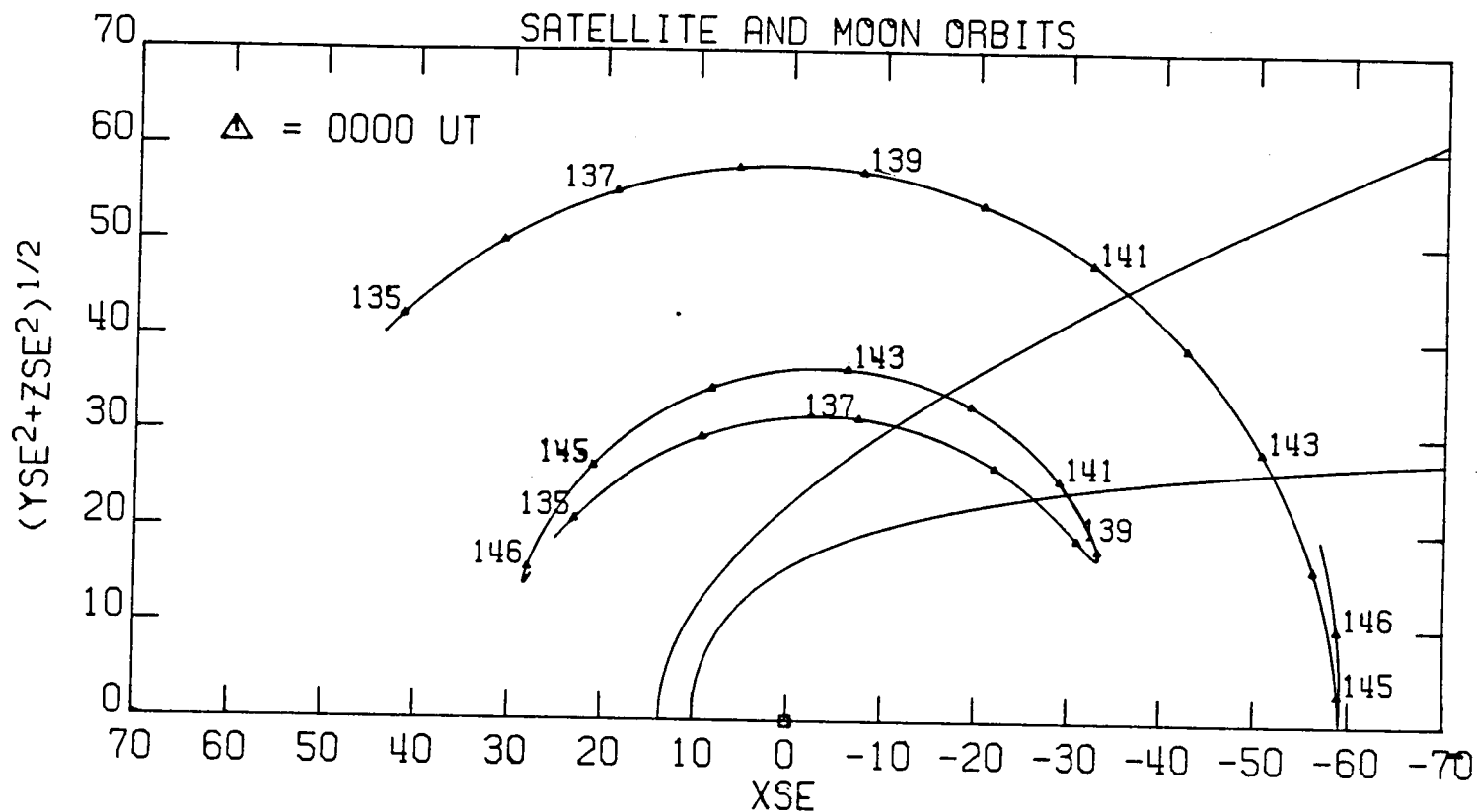
IMP 7 FROM MAY 14 TO MAY 26 1975



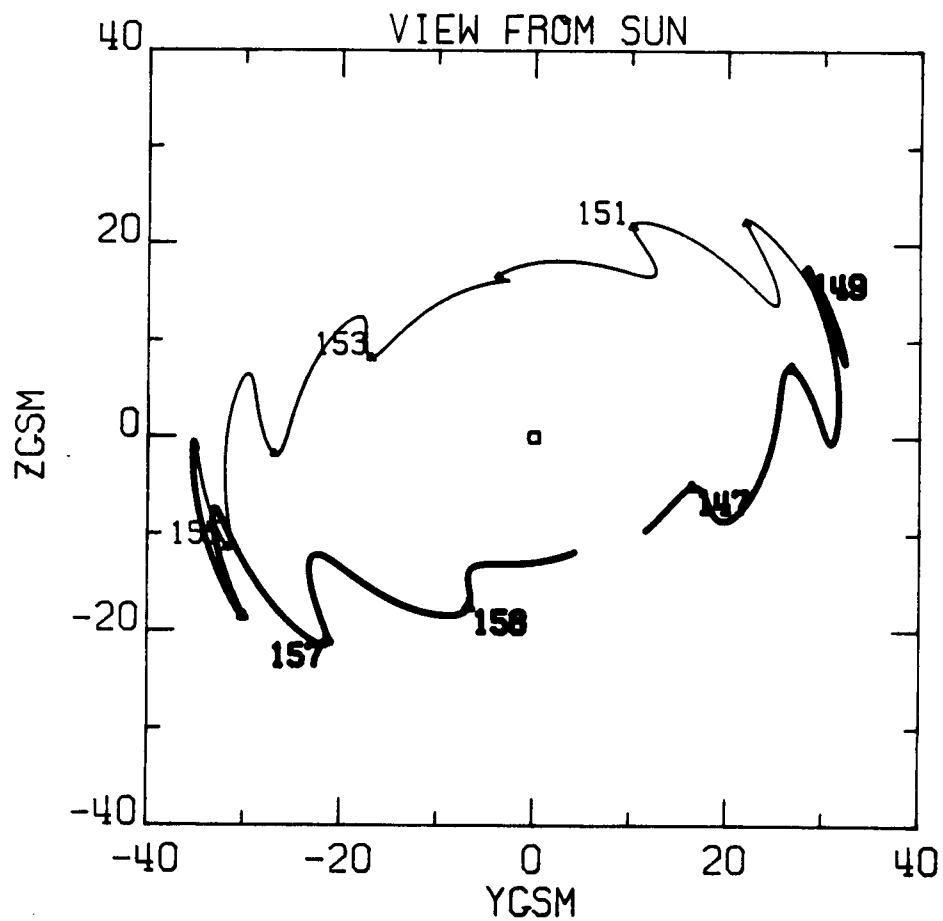
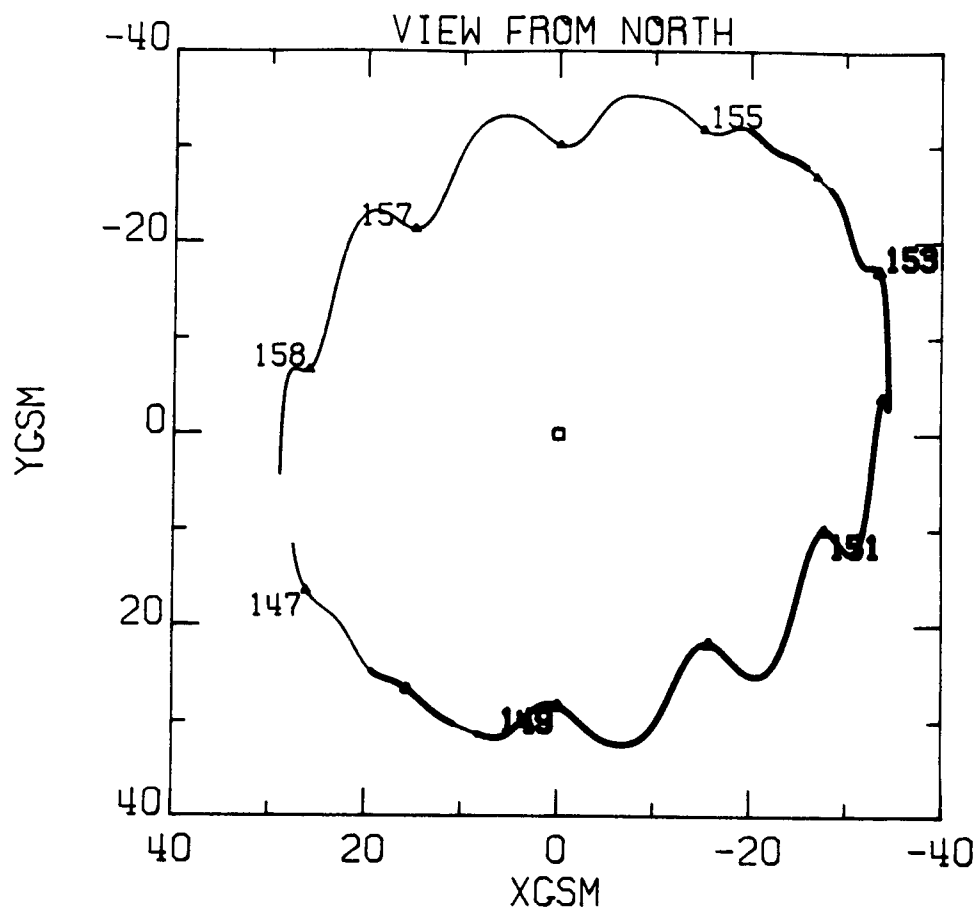
IMP 7 TRAJECTORY. ASCENDING NODE 80

FROM MAY 14 TO MAY 26 1975

DAYS 134 THRU 146



IMP 7 FROM MAY 26 TO JUN 7 1975

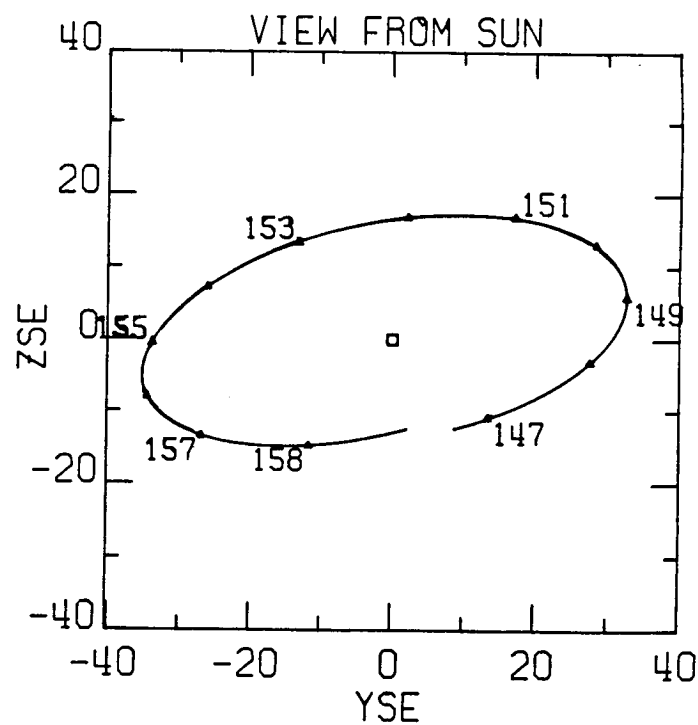
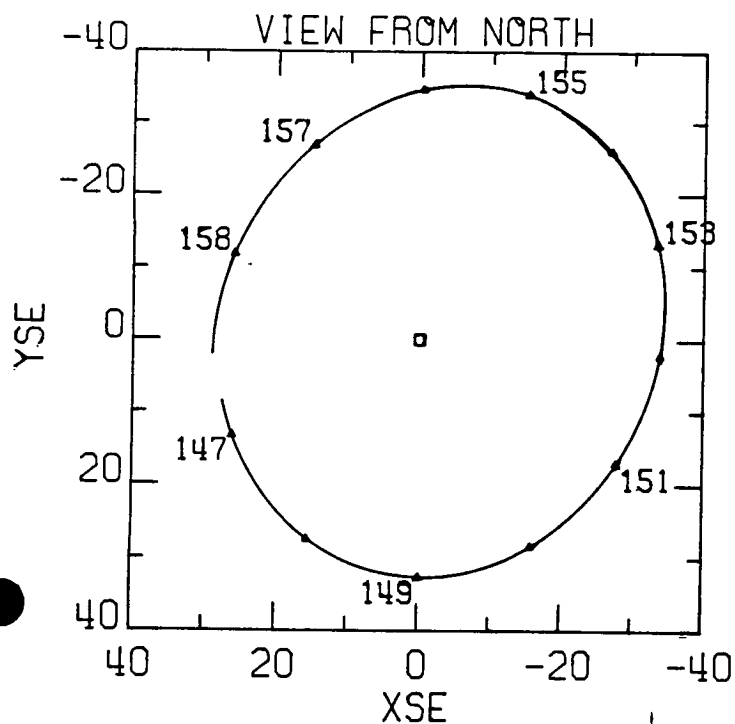
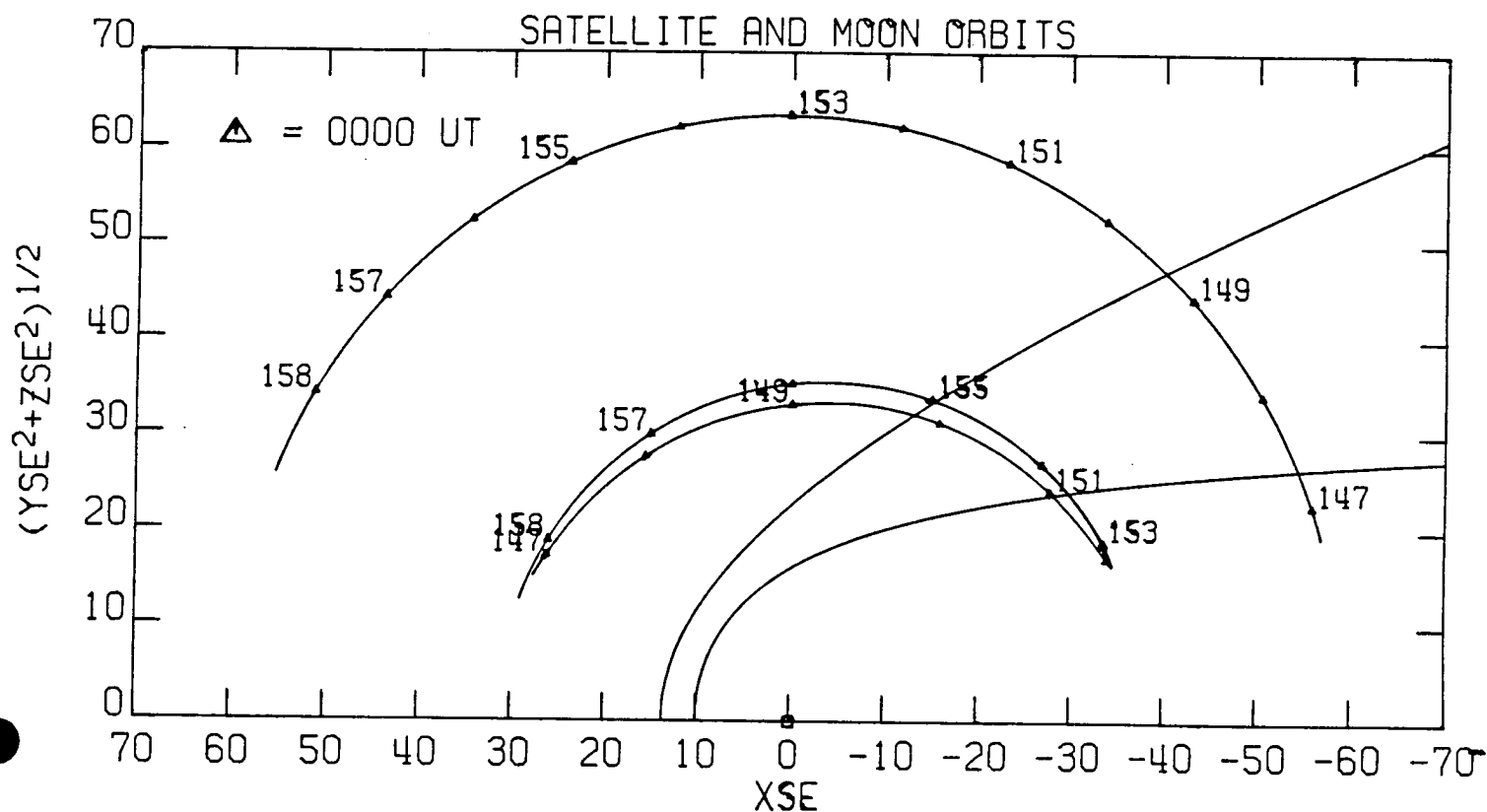


IMP 7 TRAJECTORY.

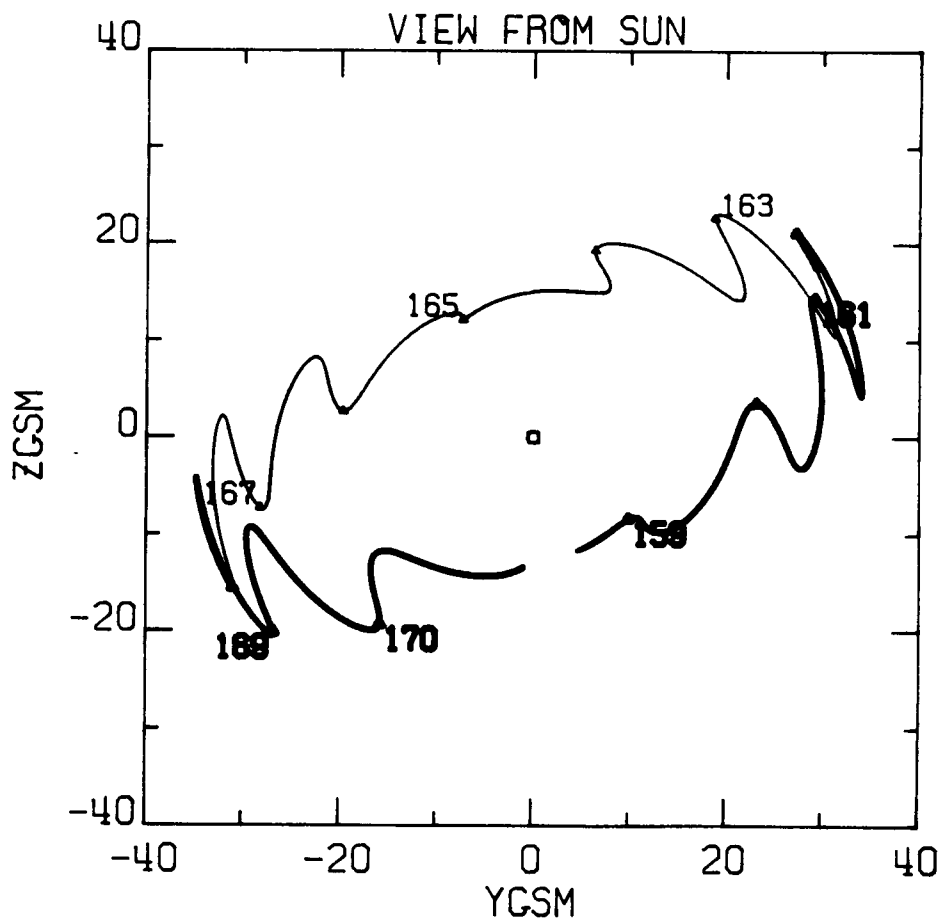
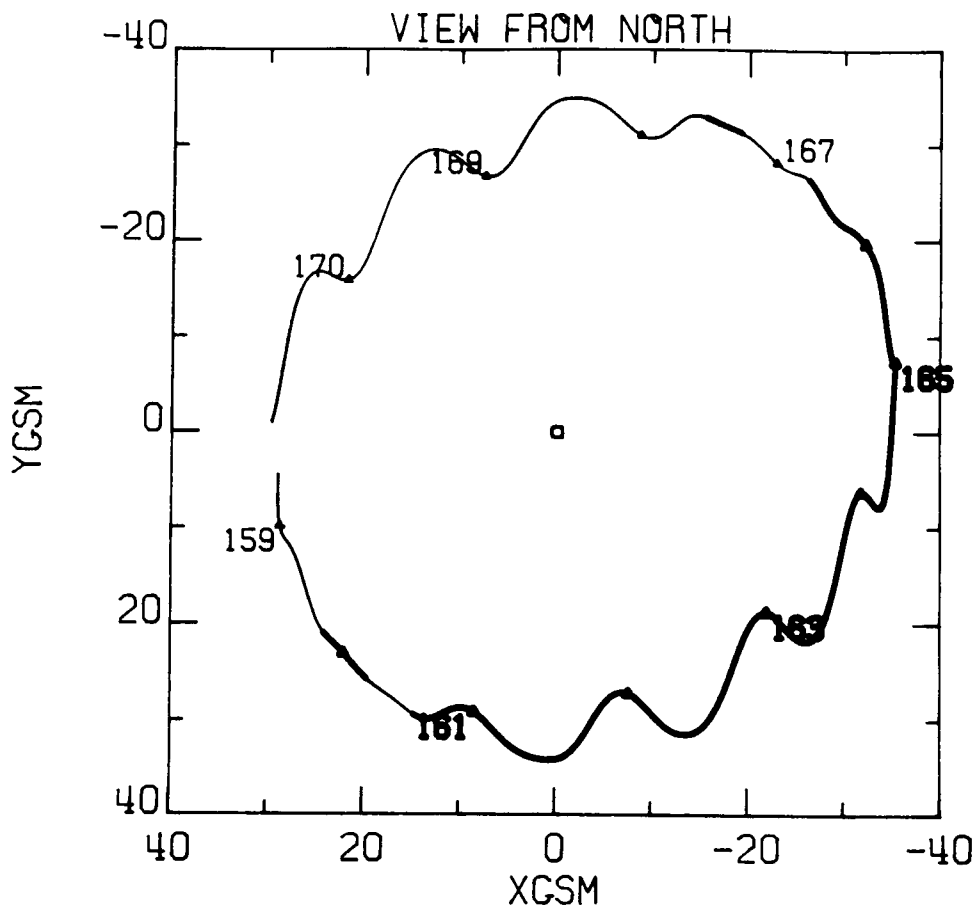
ASCENDING NODE 81

FROM MAY 26 TO JUN 7 1975

DAYS 146 THRU 158



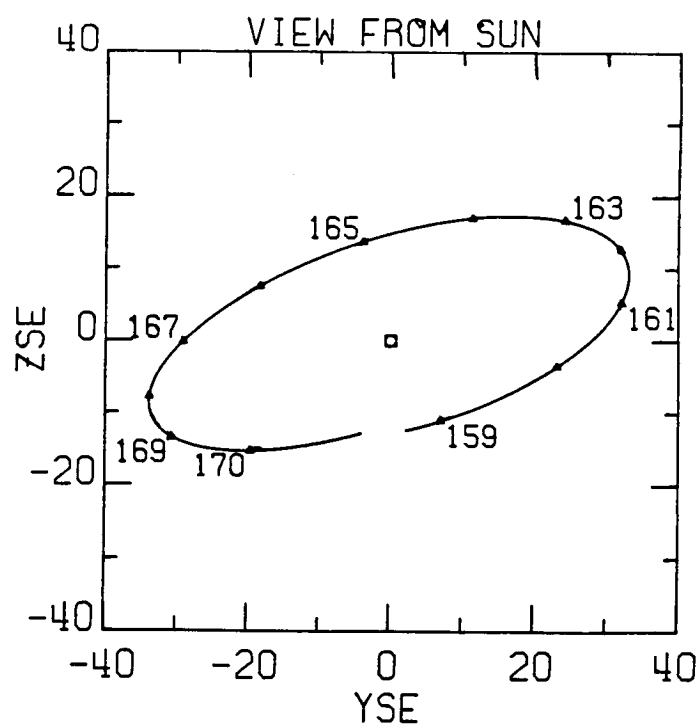
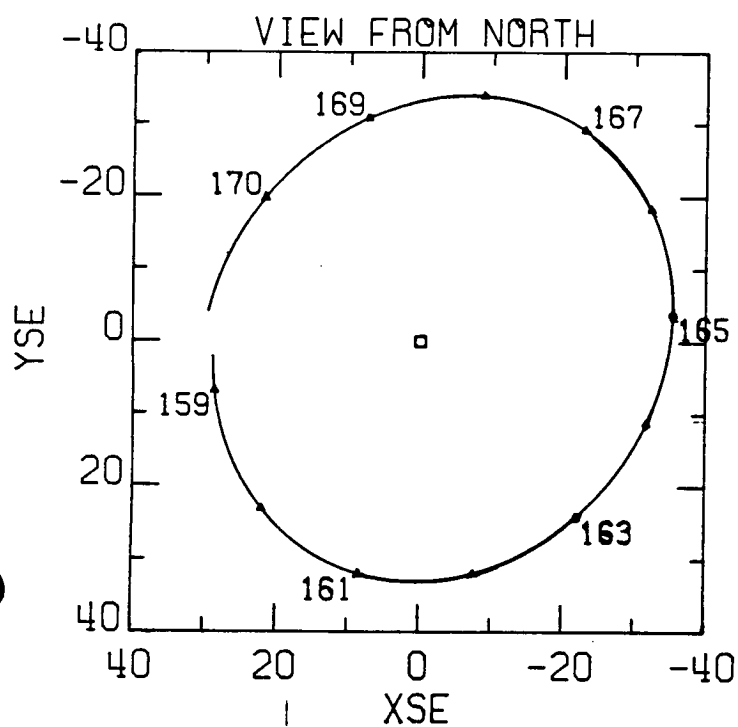
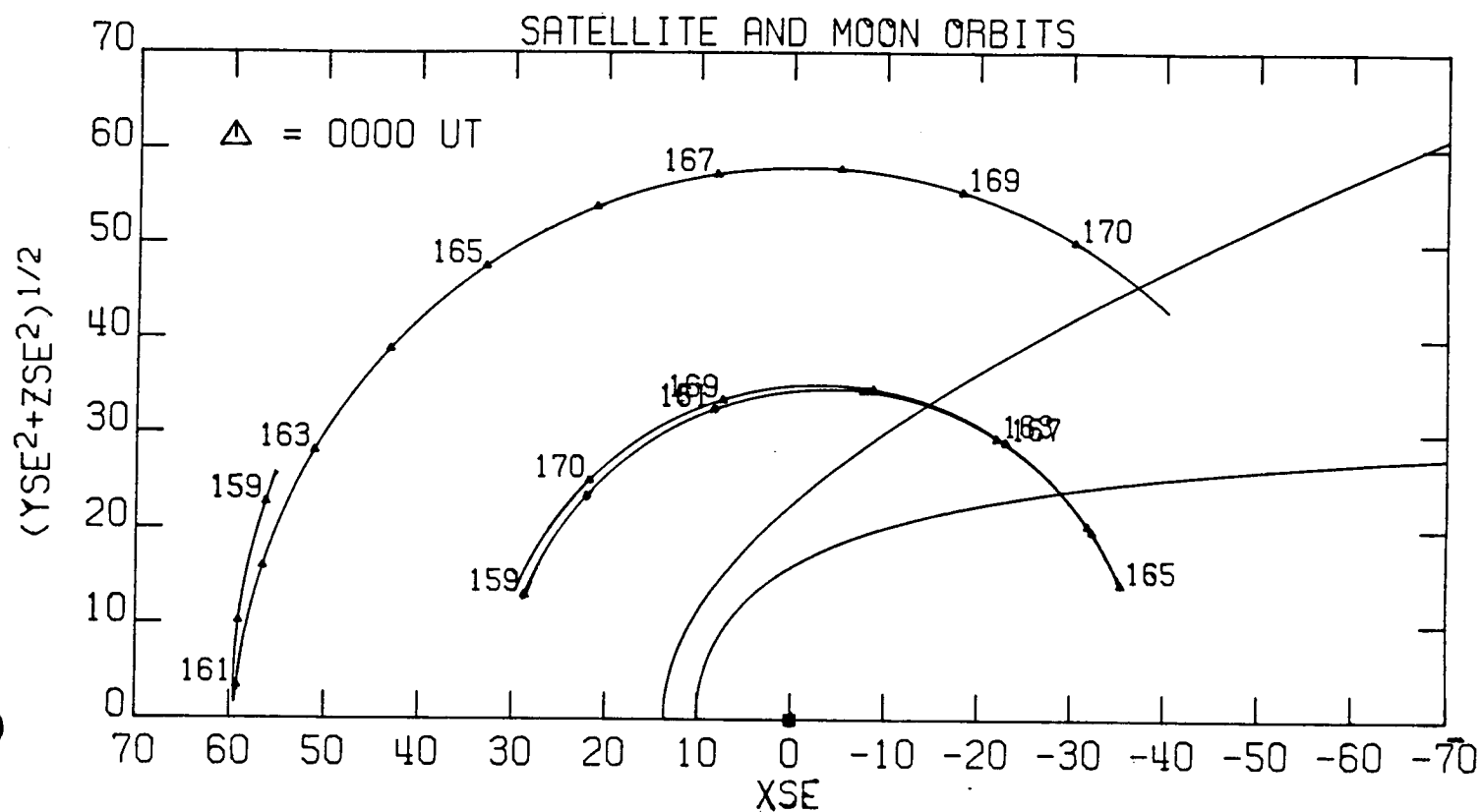
IMP 7 FROM JUN 7 TO JUN 19 1975



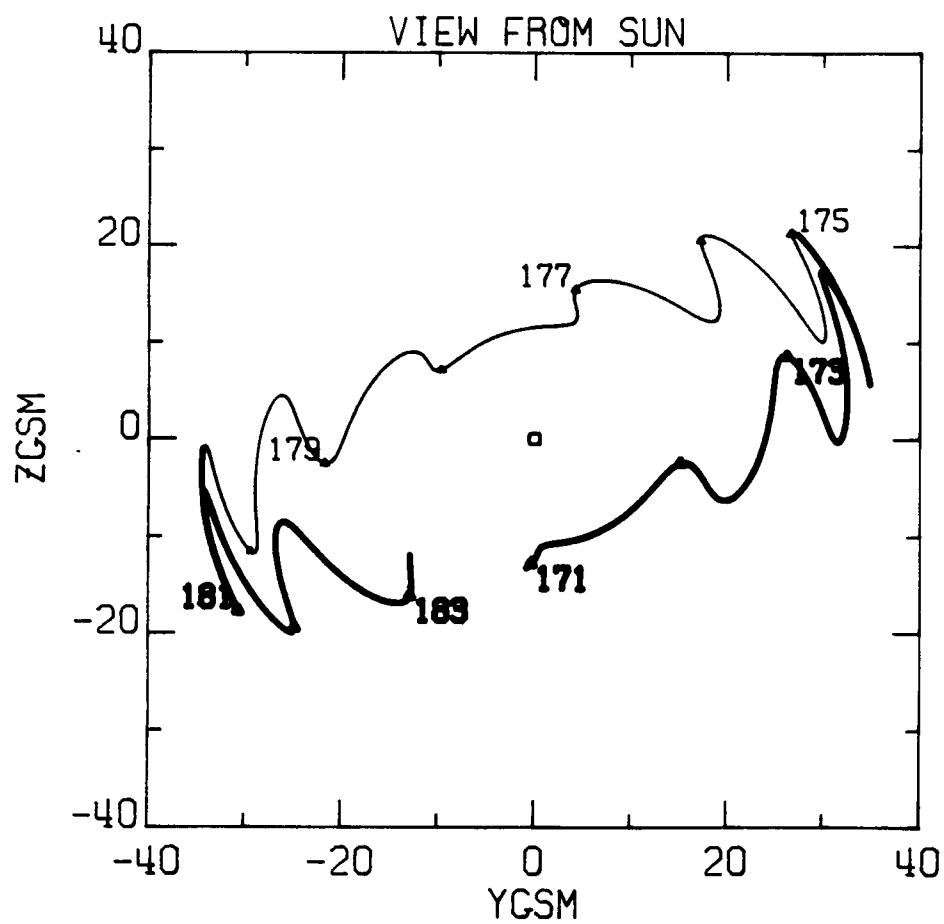
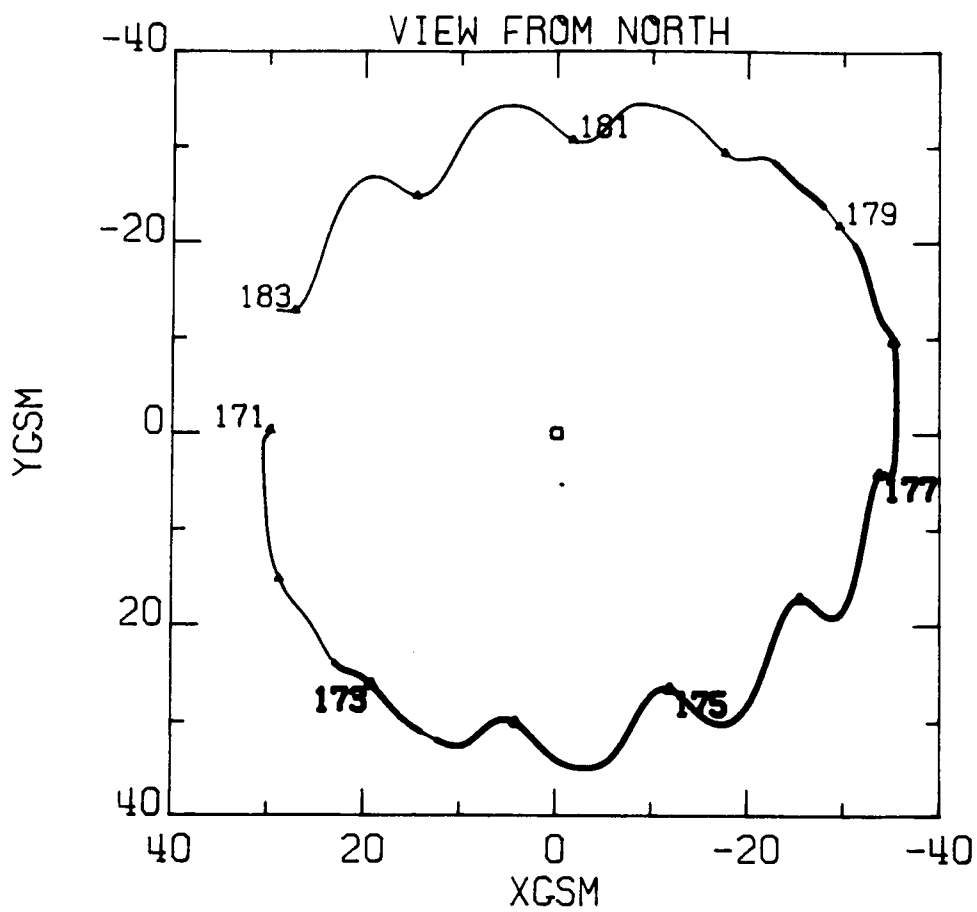
IMP 7 TRAJECTORY. ASCENDING NODE 82

FROM JUN 7 TO JUN 19 1975

DAYS 158 THRU 170



IMP 7 FROM JUN 19 TO JUL 2 1975

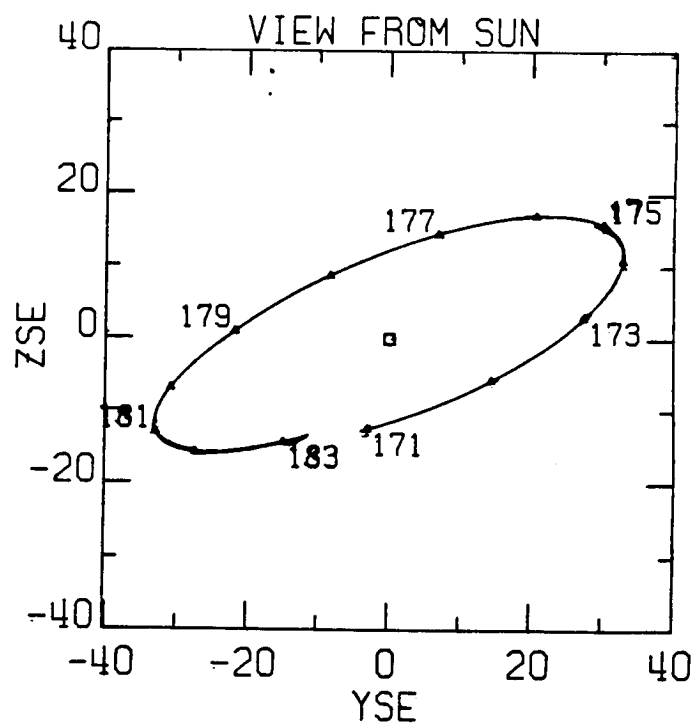
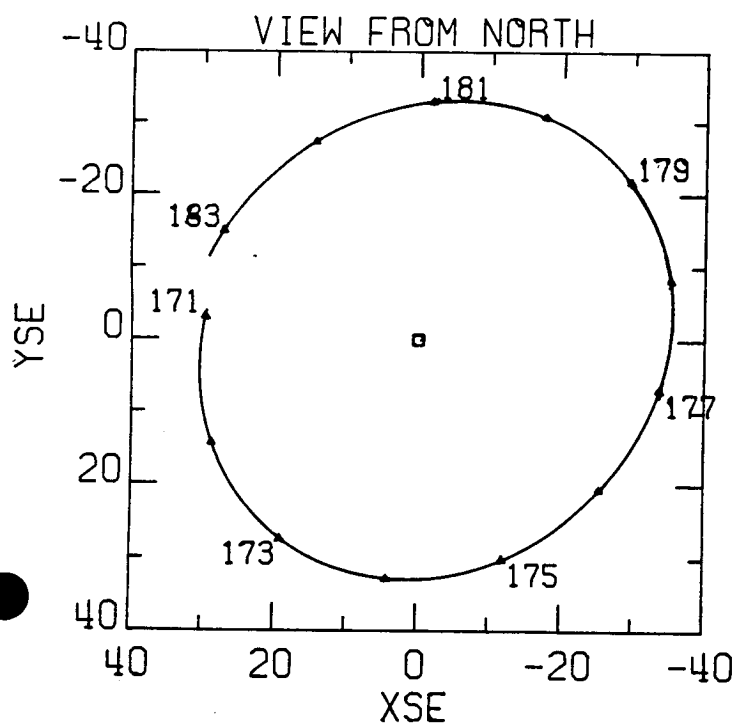
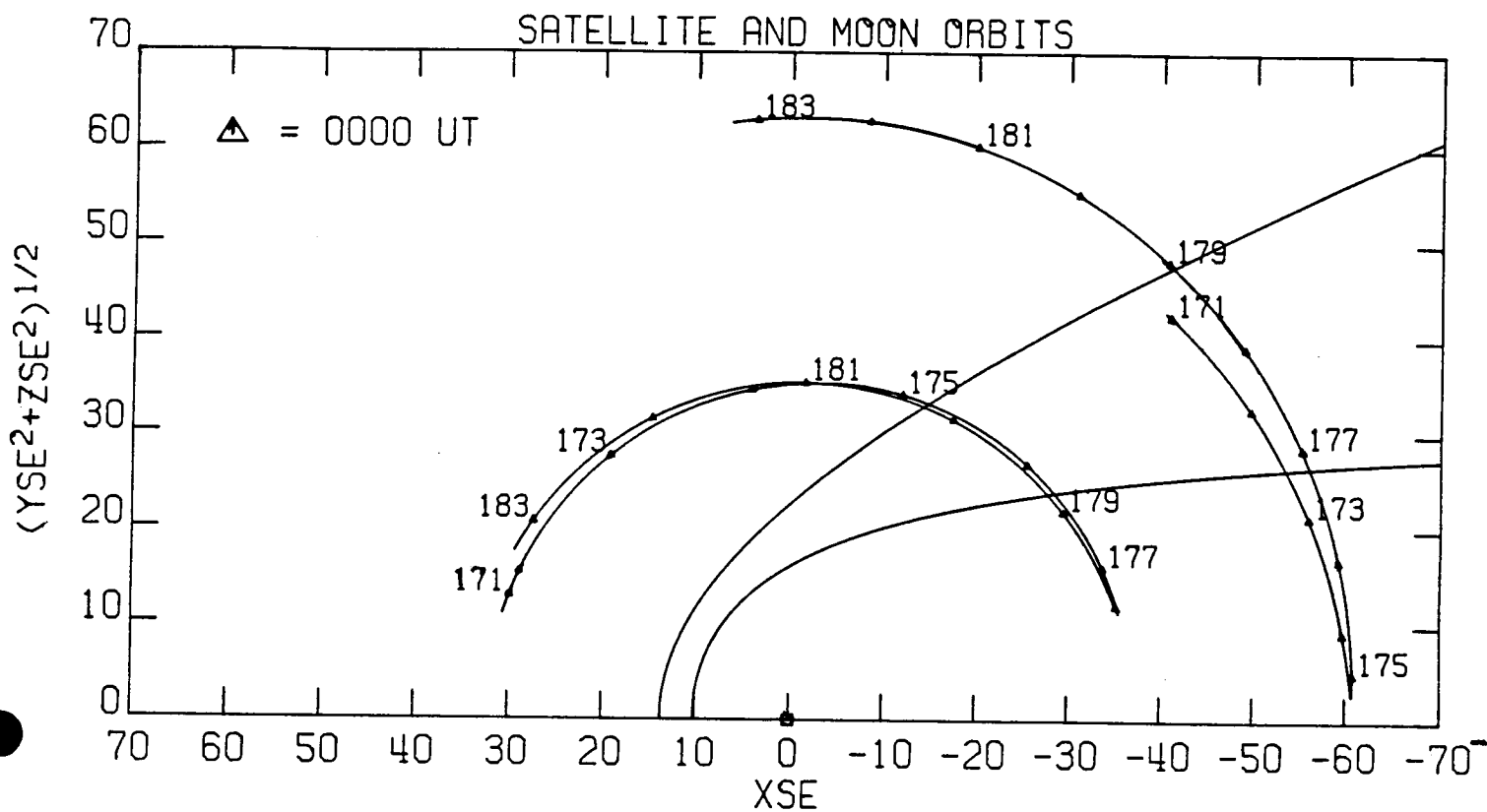


IMP 7 TRAJECTORY.

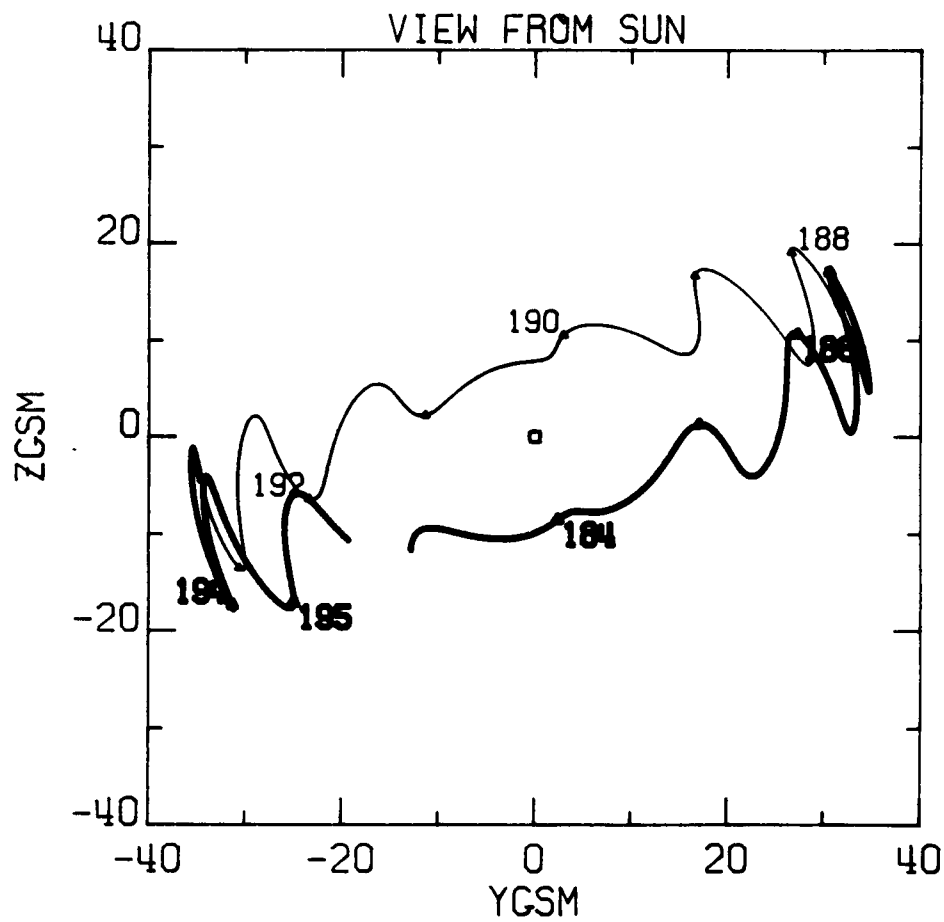
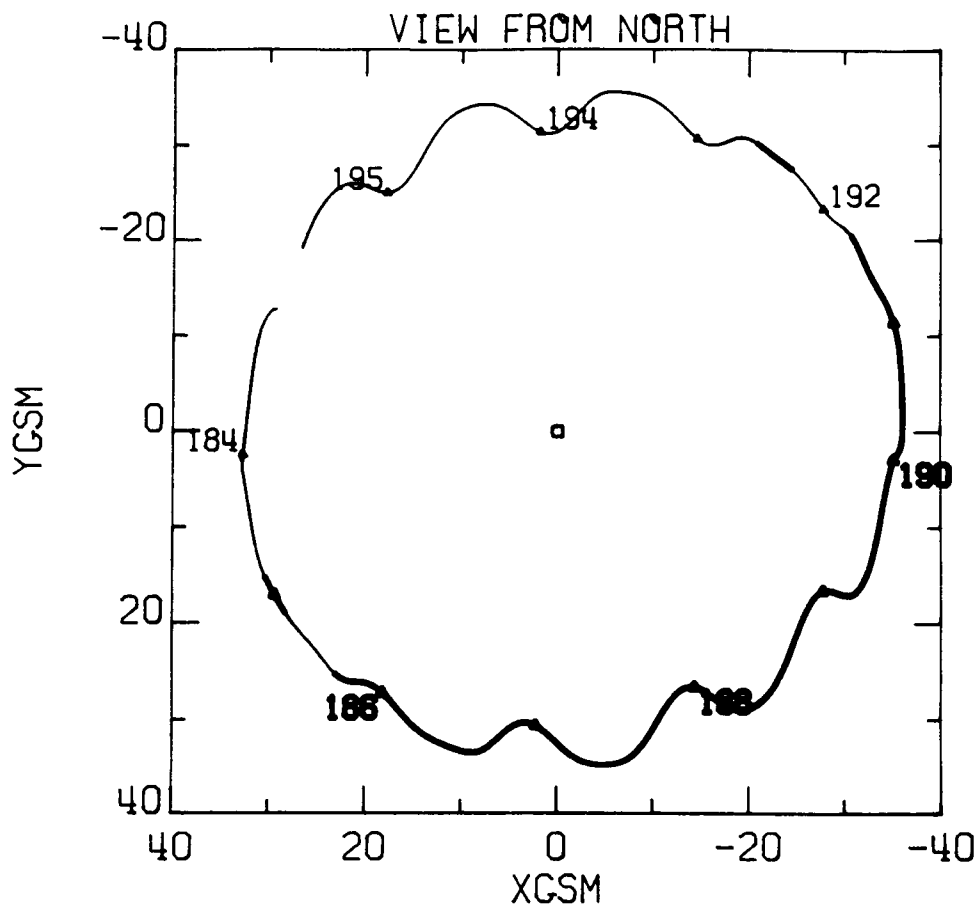
ASCENDING NODE. 83

FROM JUN 19 TO JUL 2 1975

DAYS 170 THRU 183



IMP 7 FROM JUL 2 TO JUL 14 1975

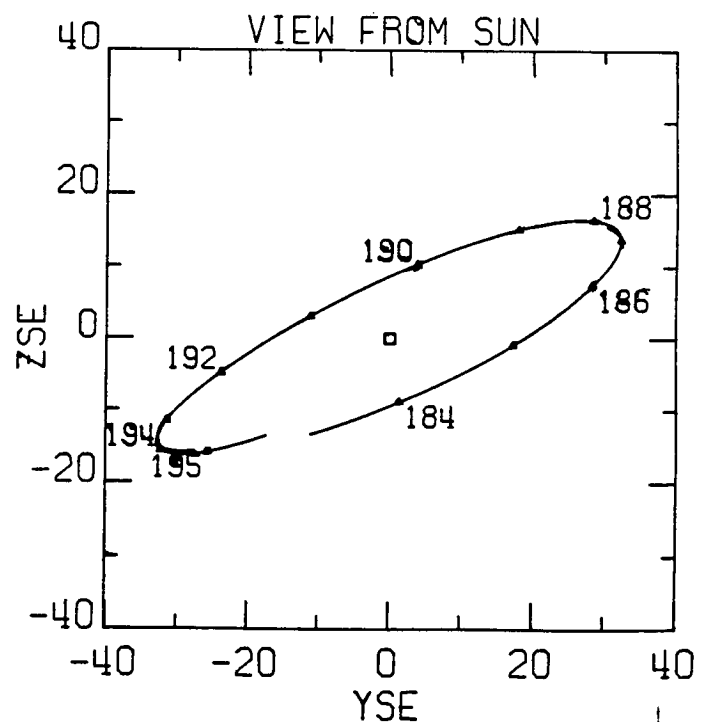
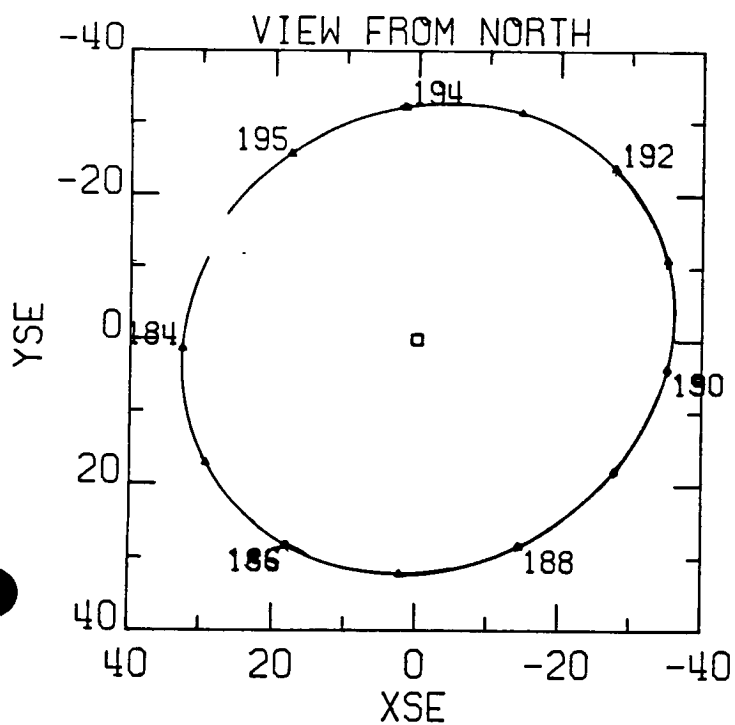
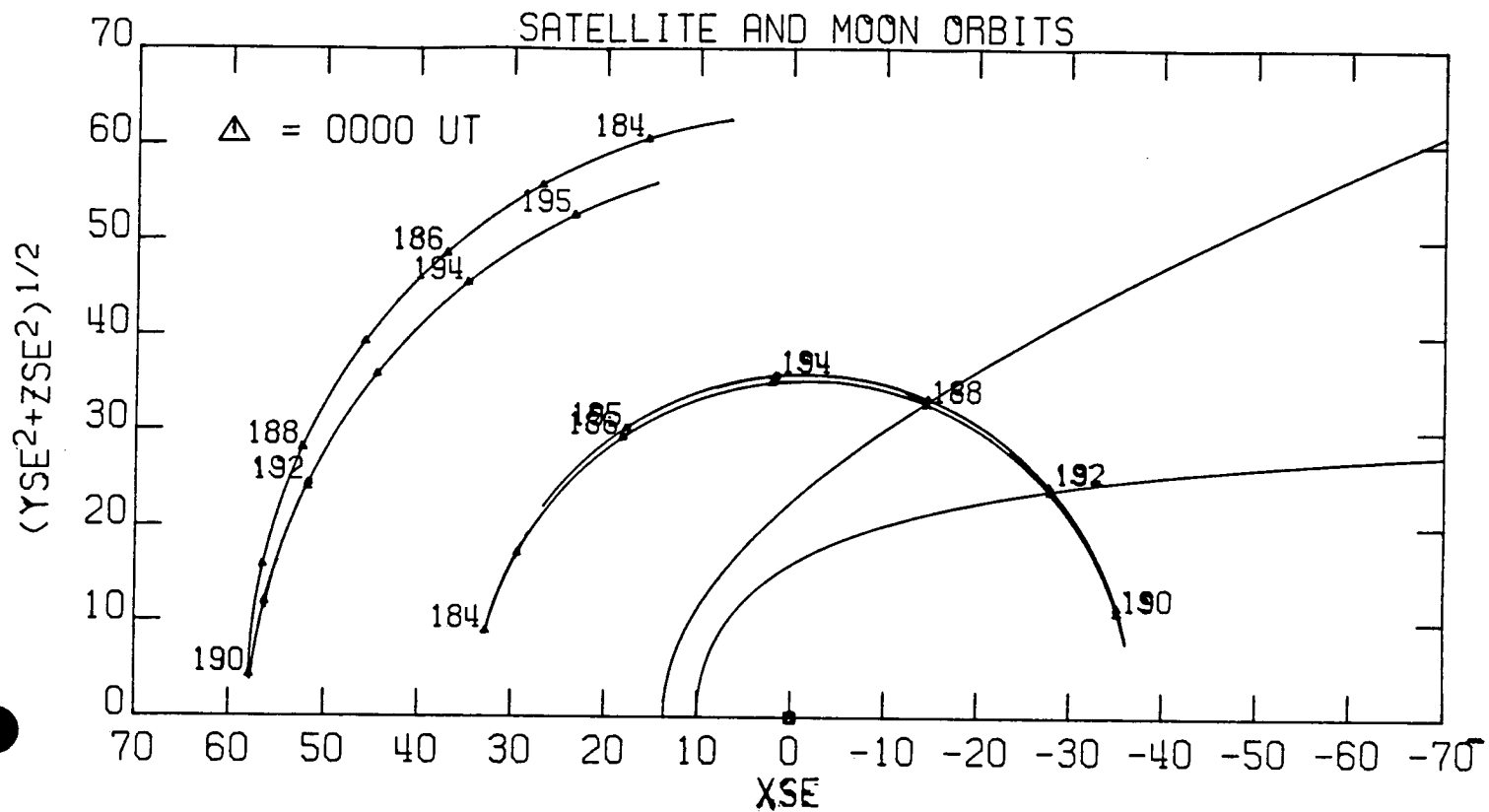


IMP 7 TRAJECTORY.

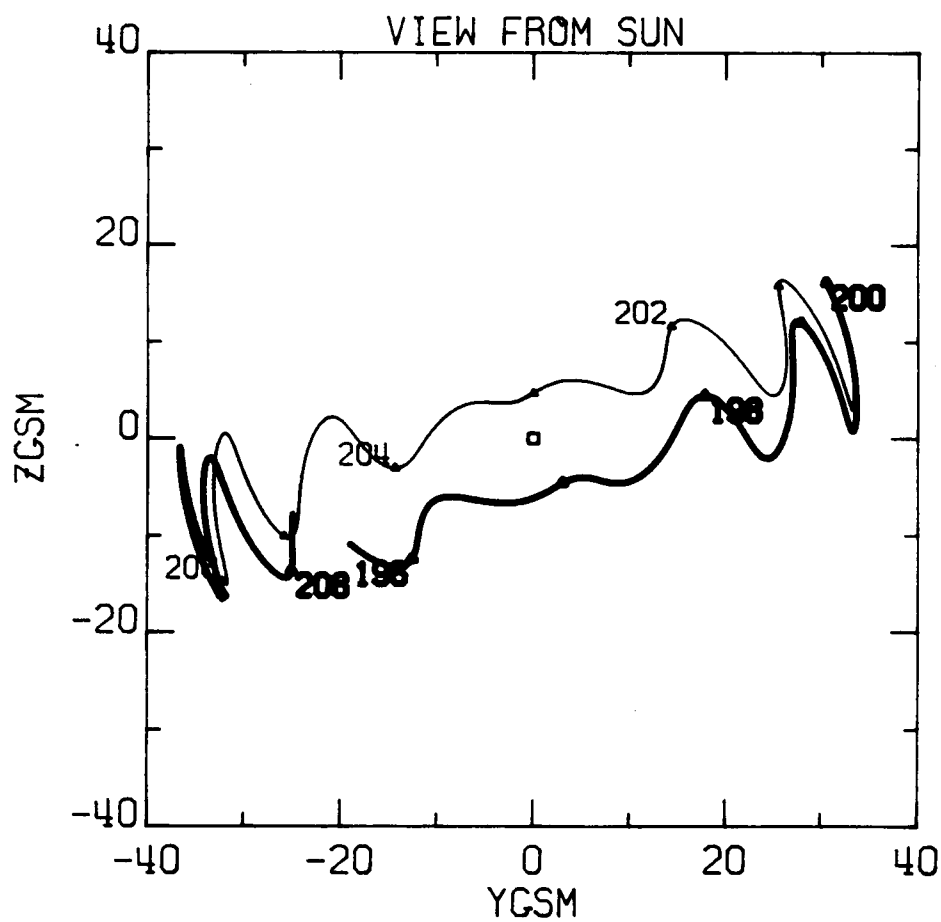
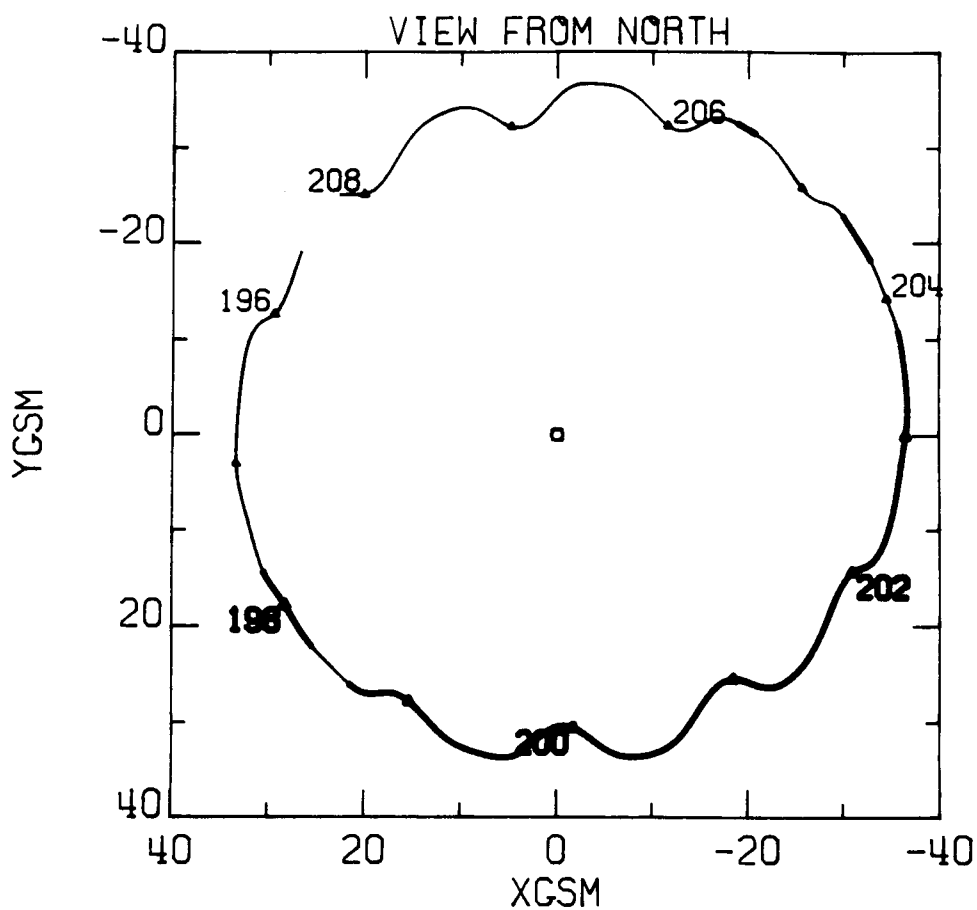
ASCENDING NODE 84

FROM JUL 2 TO JUL 14 1975

DAYS 183 THRU 195



IMP 7 FROM JUL 14 TO JUL 27 1975

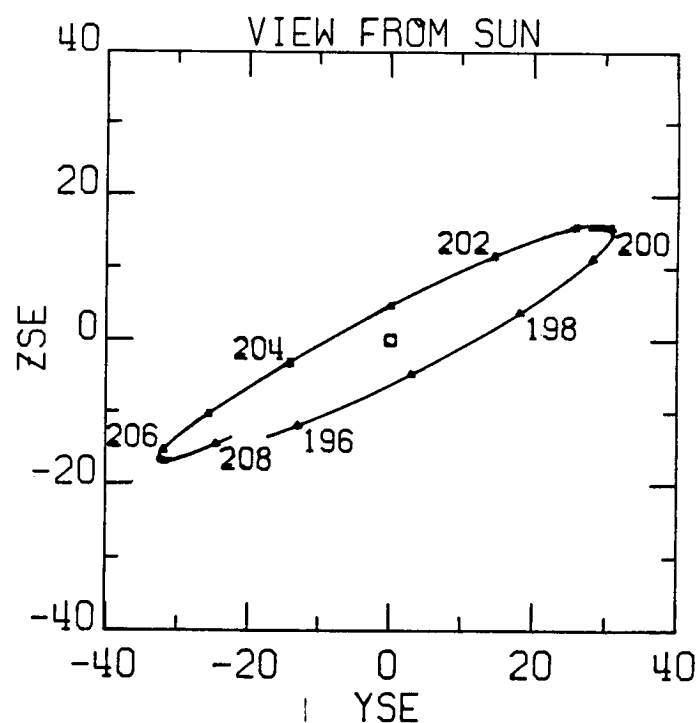
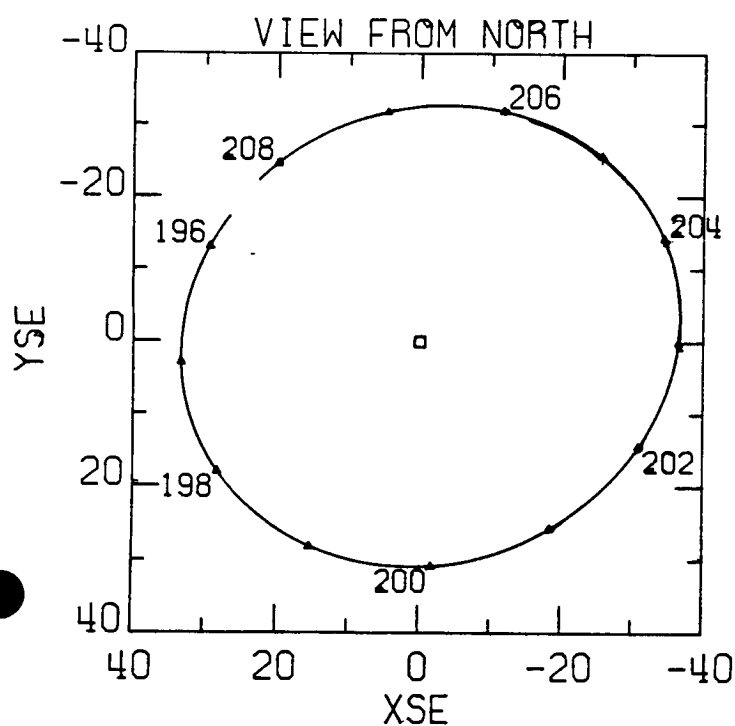
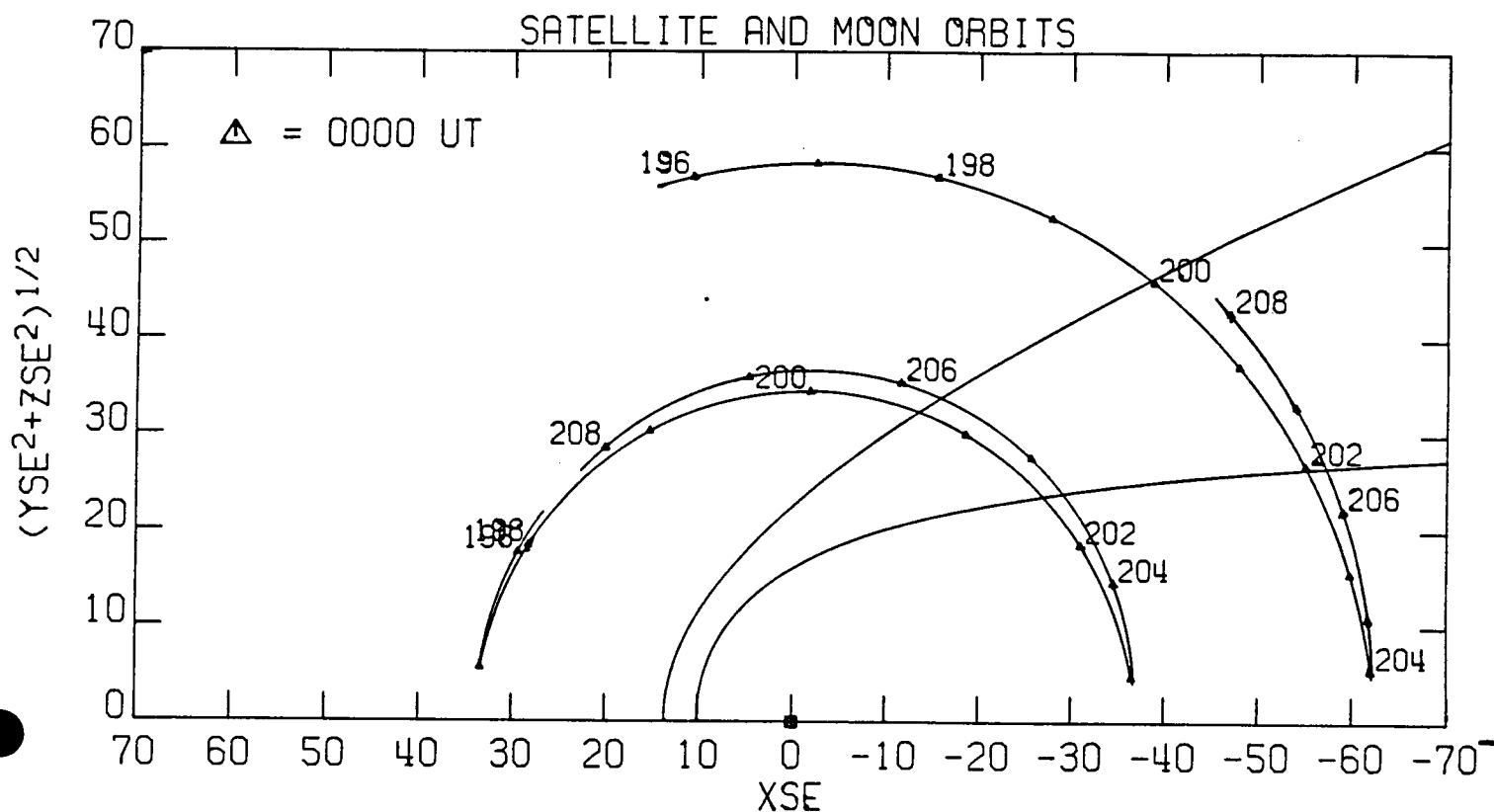


IMP 7 TRAJECTORY.

ASCENDING NODE 85

FROM JUL 14 TO JUL 27 1975

DAYS 195 THRU 208



CSRTM/pan

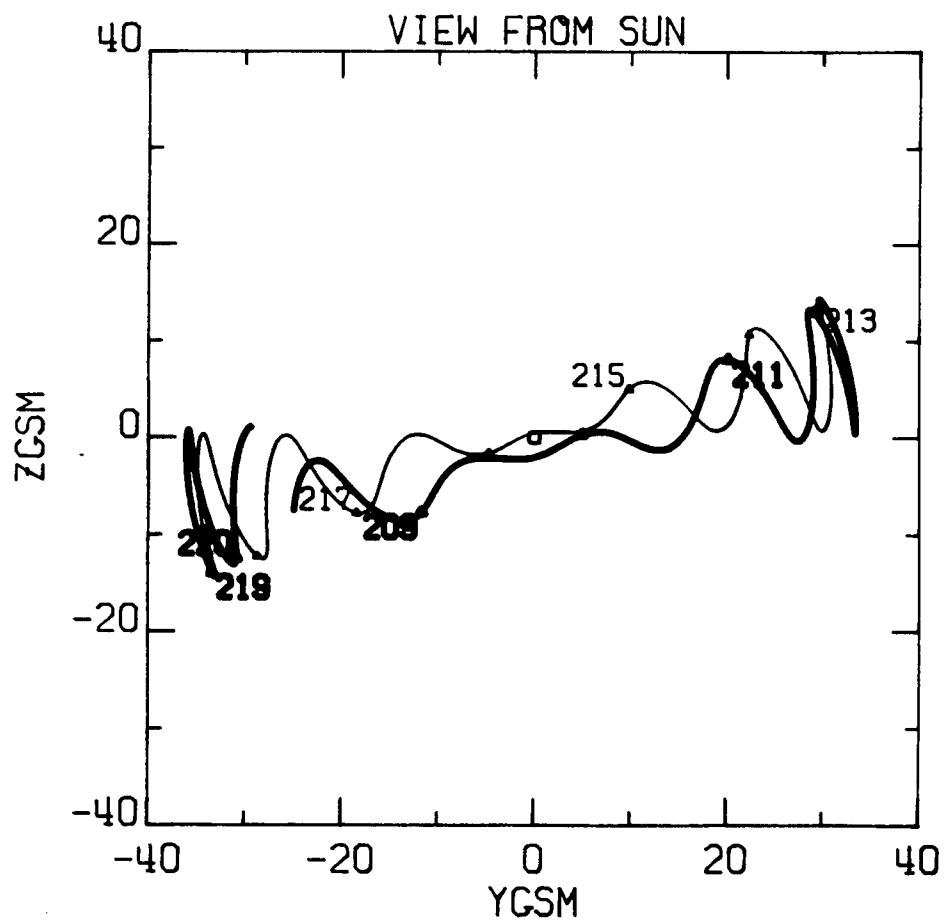
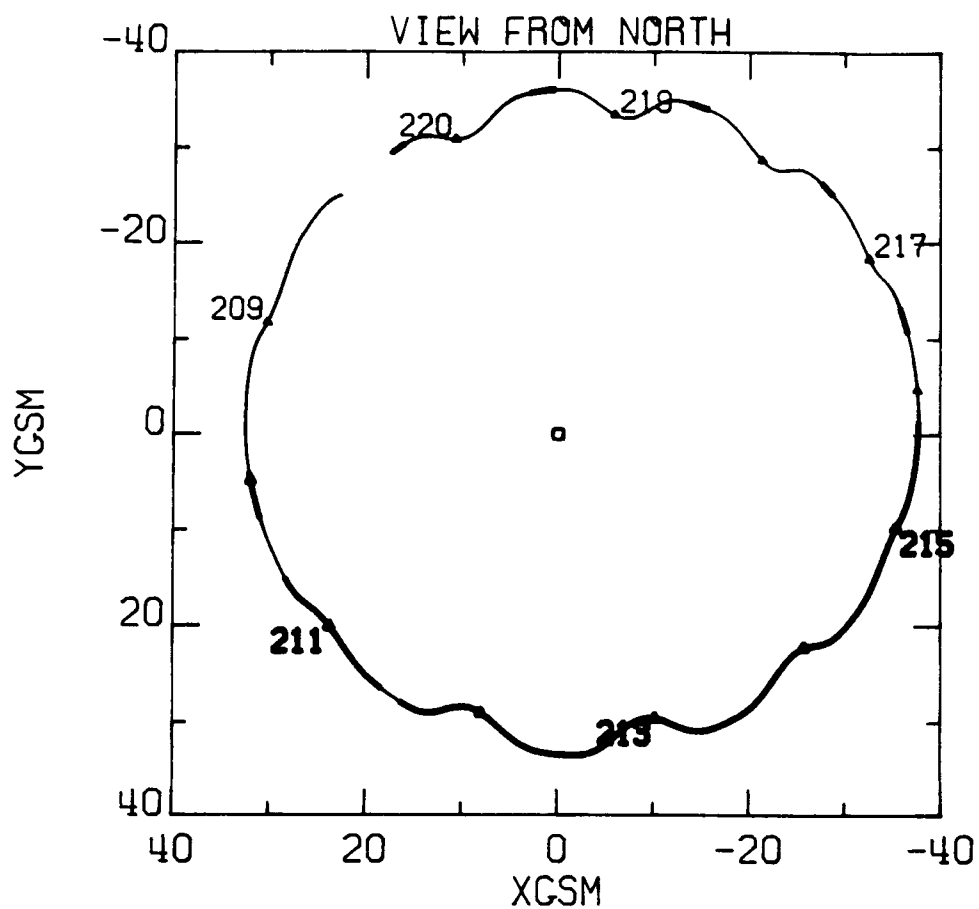
MA/11/88

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Center for

MIT

IMP 7 FROM JUL 27 TO AUG 8 1975

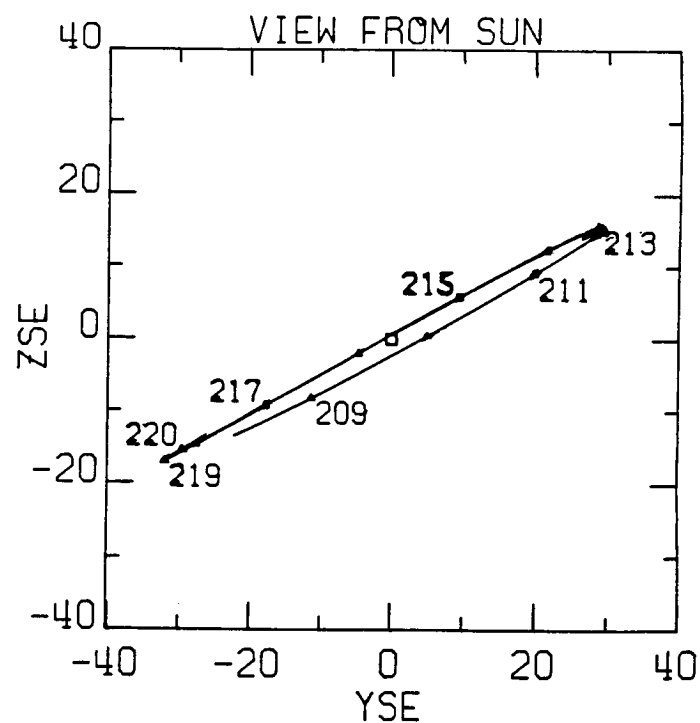
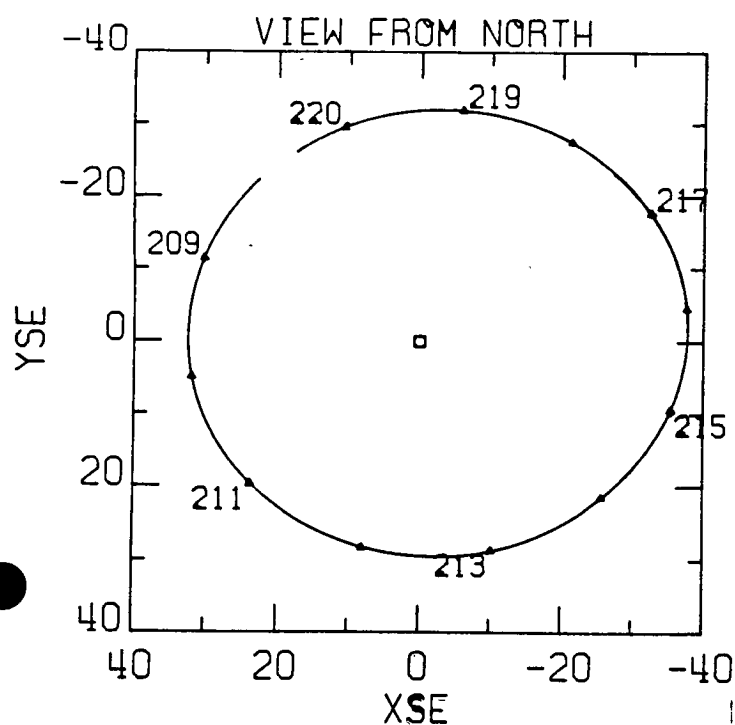
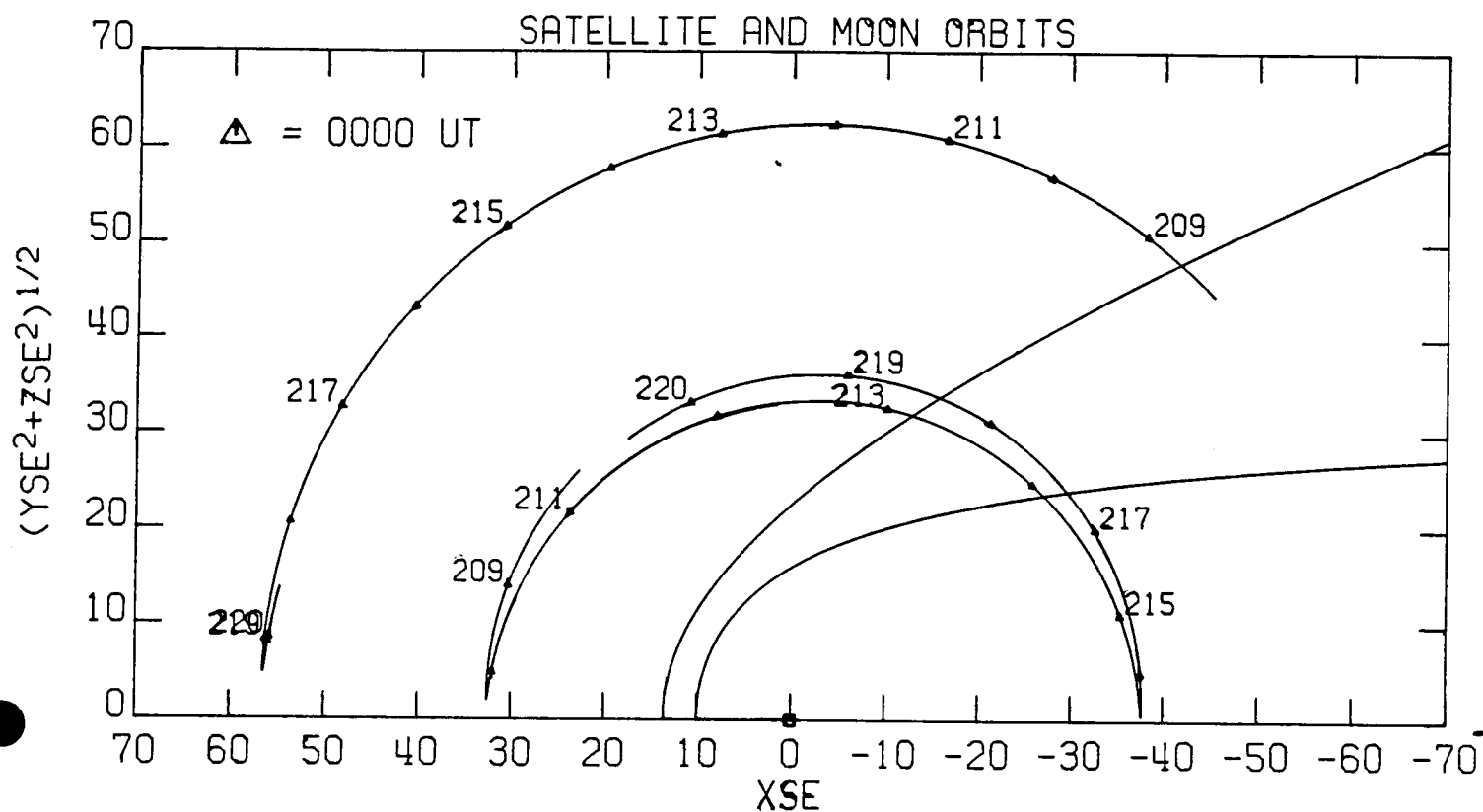


IMP 7 TRAJECTORY.

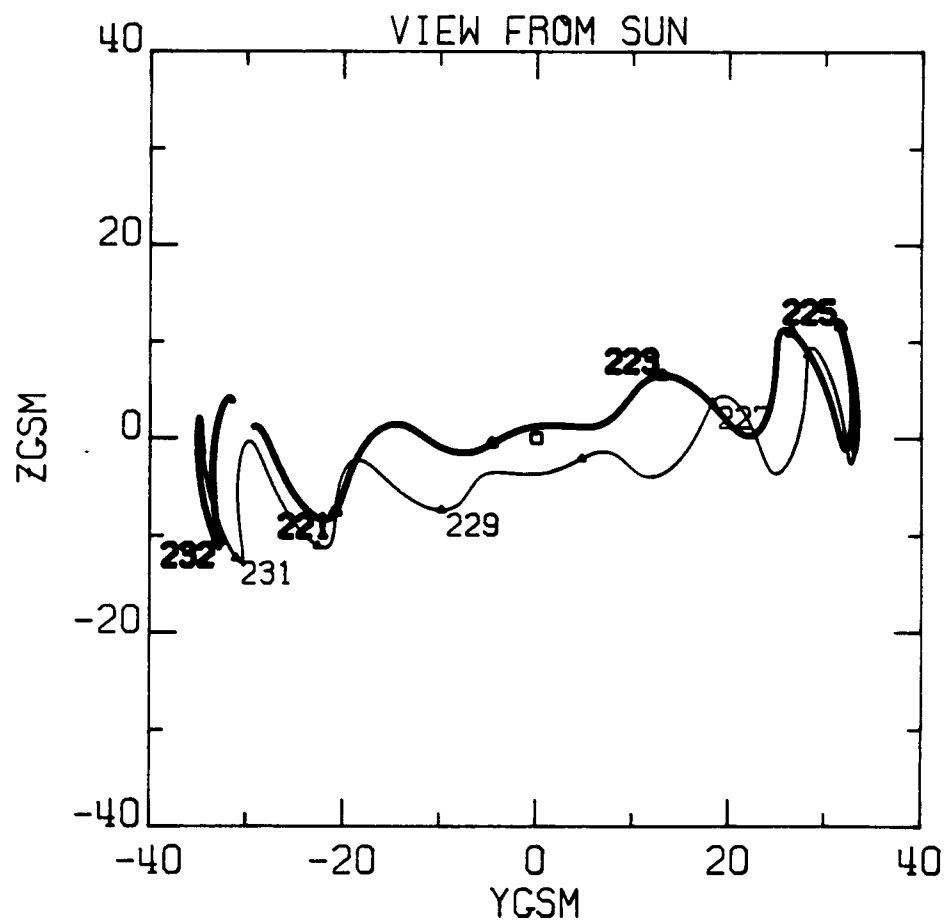
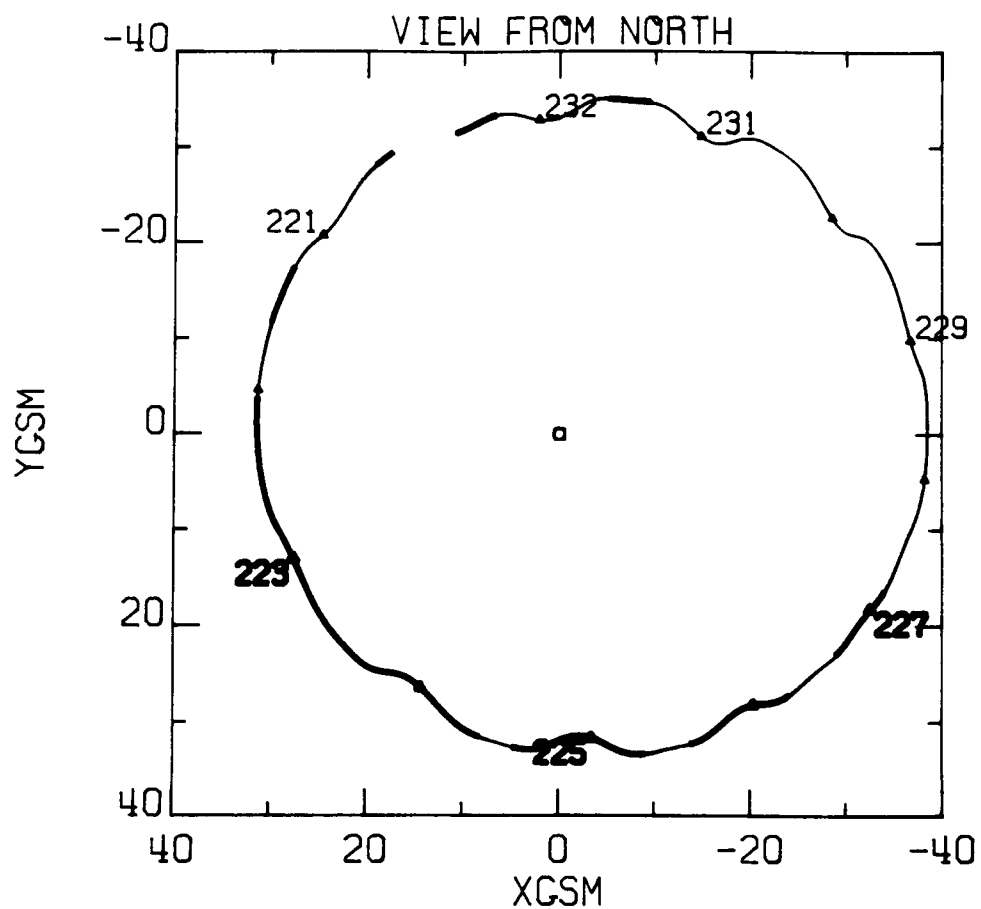
ASCENDING NODE 86

FROM JUL 27 TO AUG 8 1975

DAYS 208 THRU 220



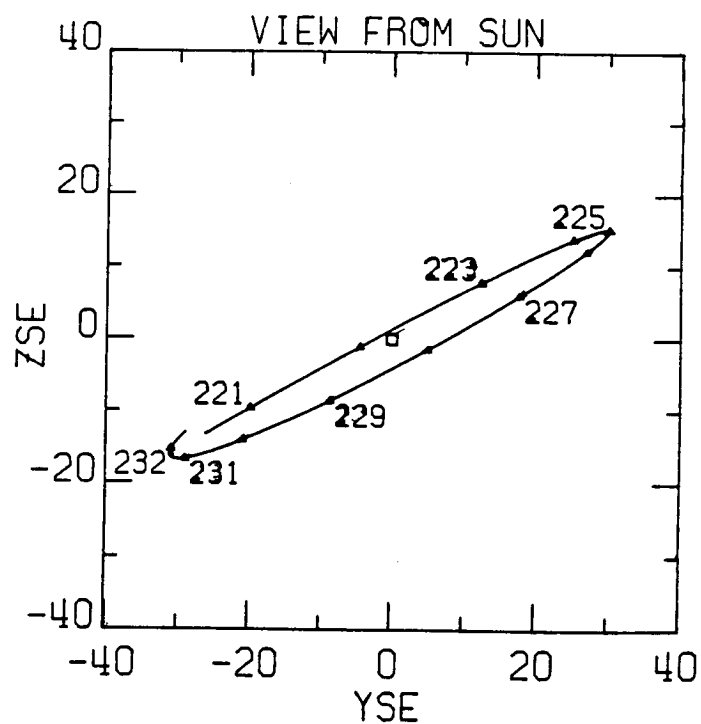
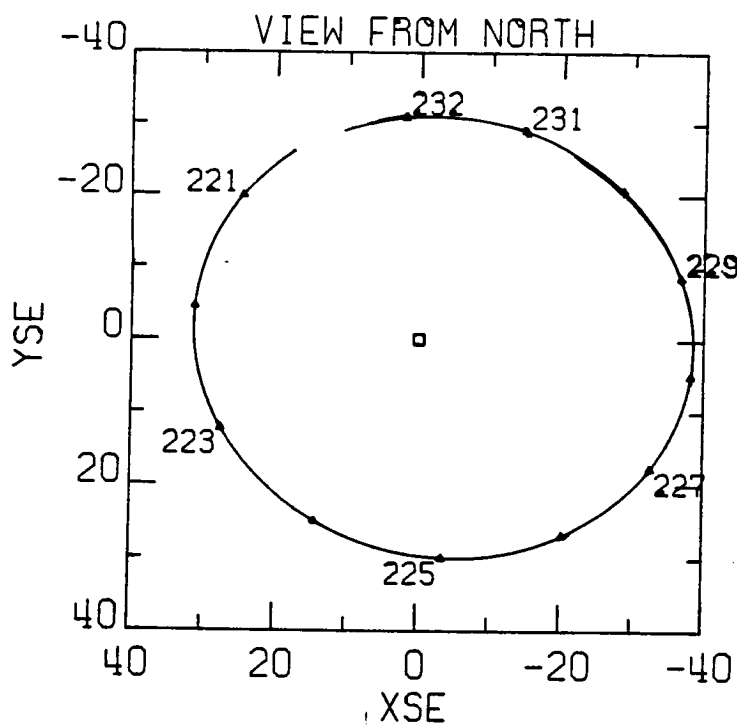
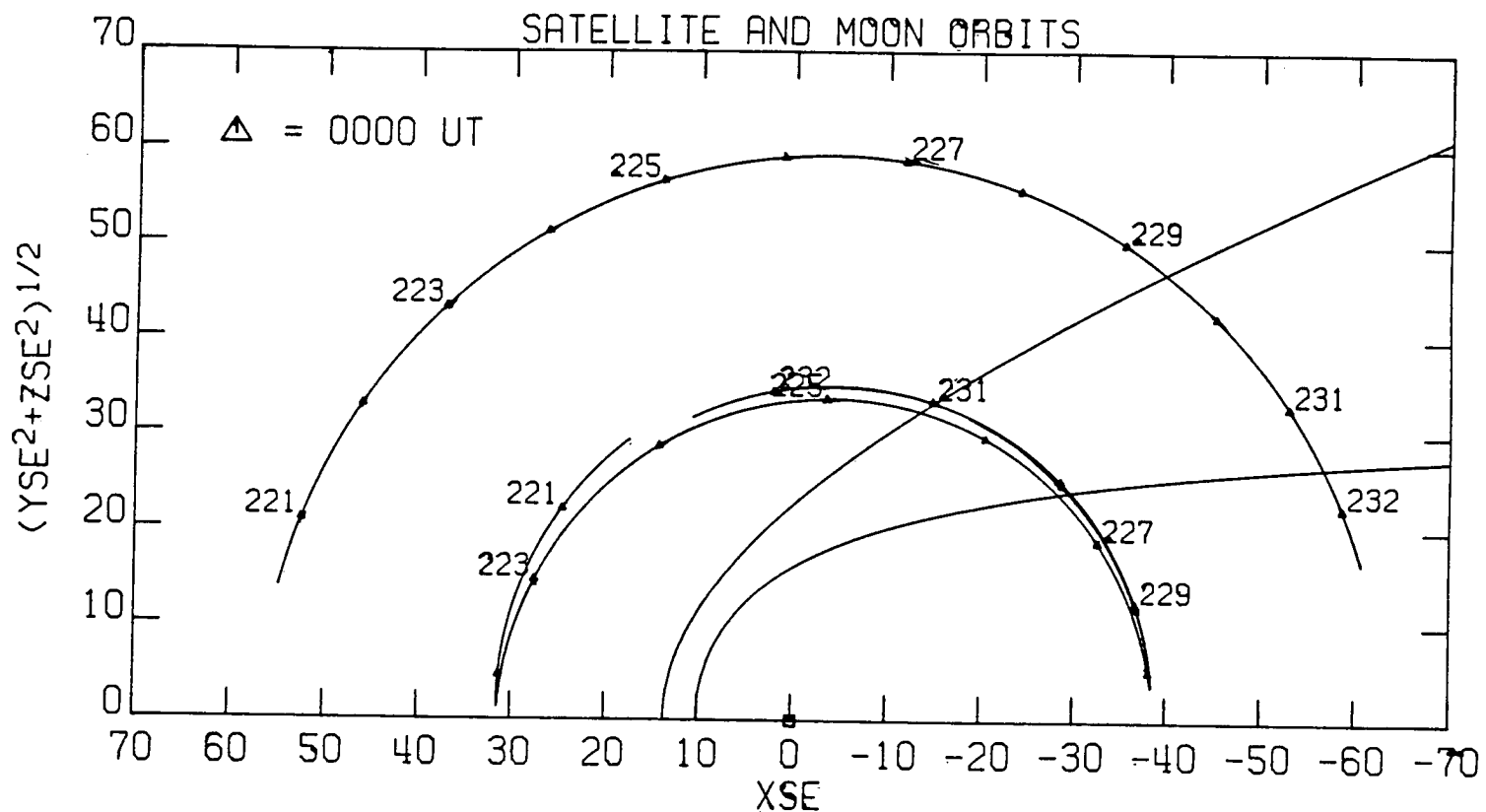
IMP 7 FROM AUG 8 TO AUG 20 1975



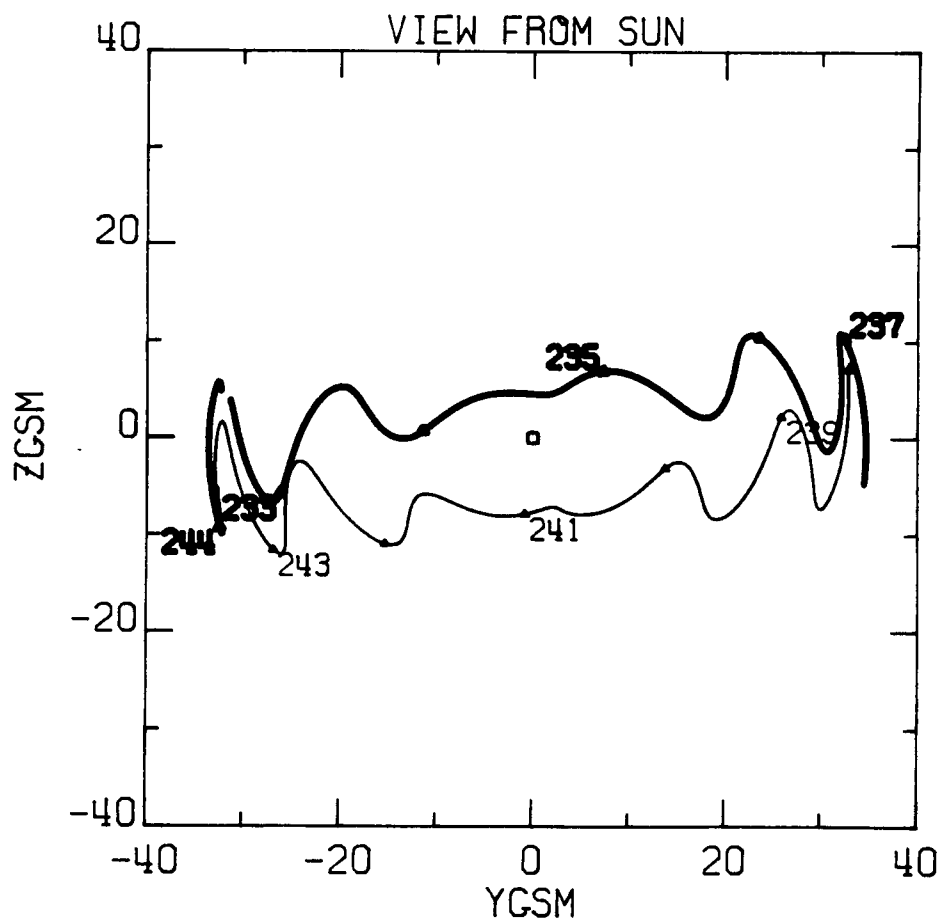
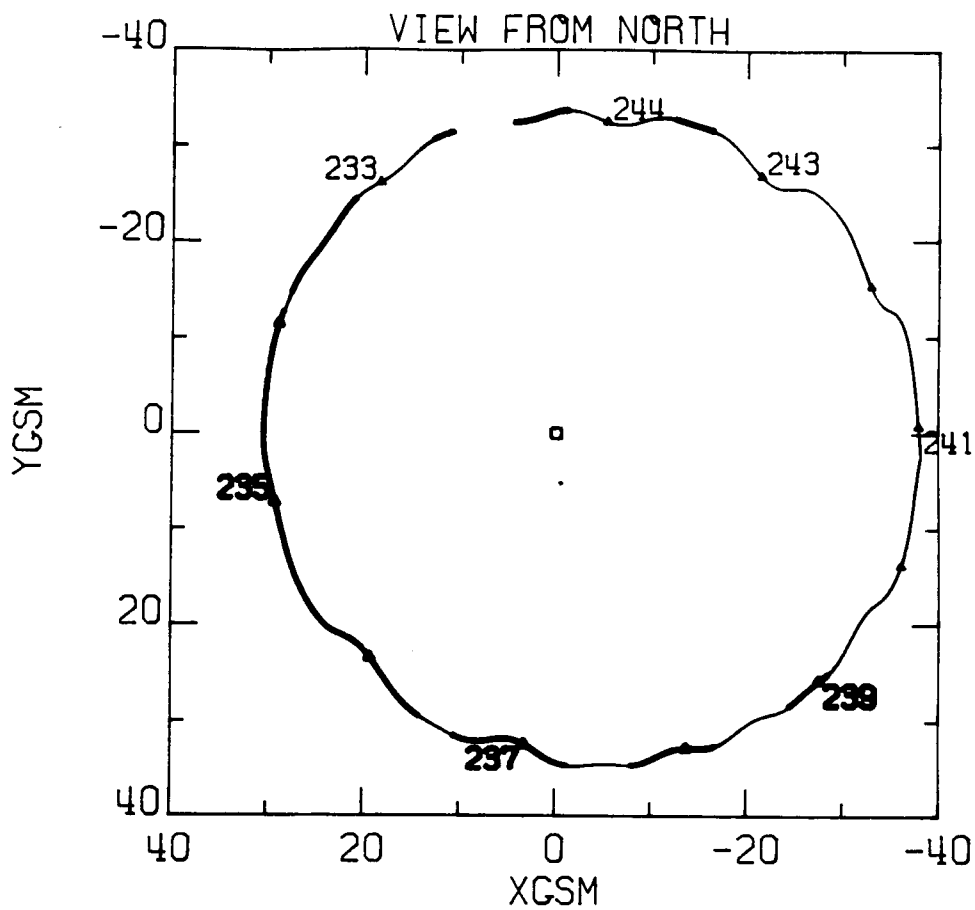
IMP 7 TRAJECTORY. ASCENDING NODE 87

FROM AUG 8 TO AUG 20 1975

DAYS 220 THRU 232



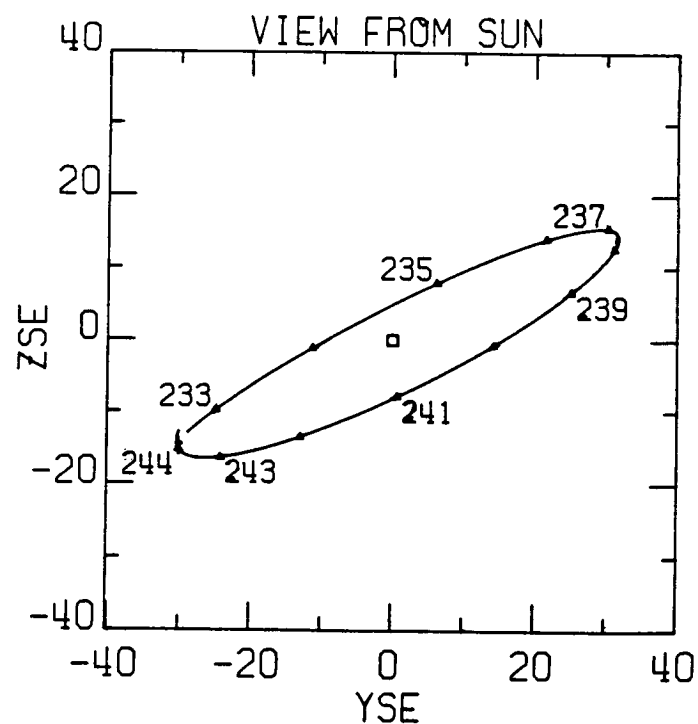
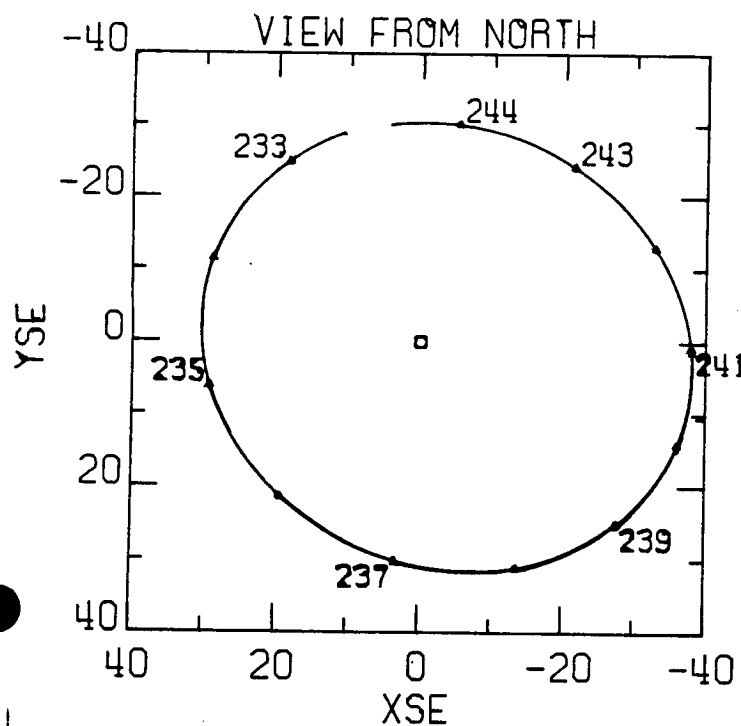
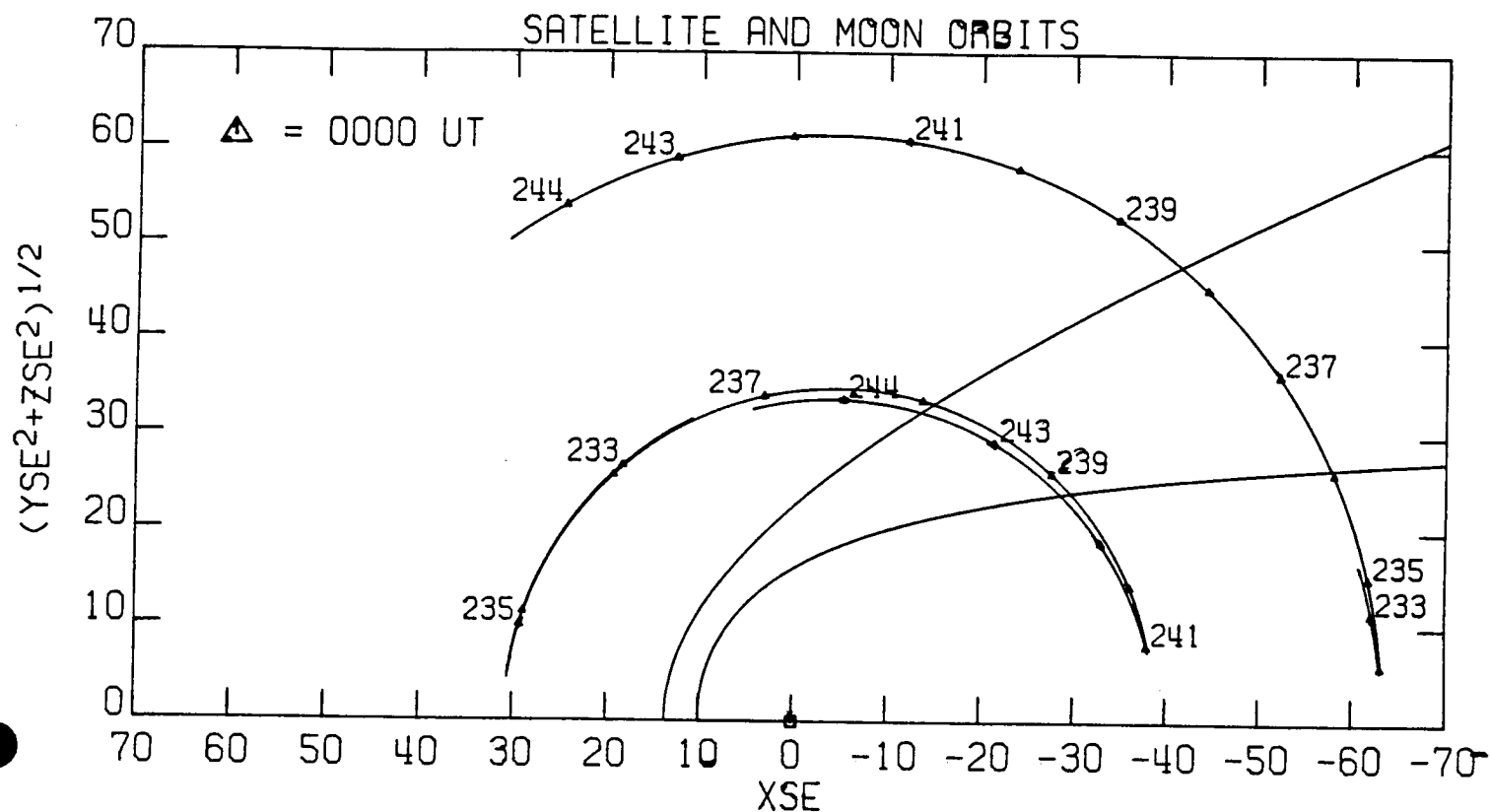
IMP 7 FROM AUG 20 TO SEP 1 1975



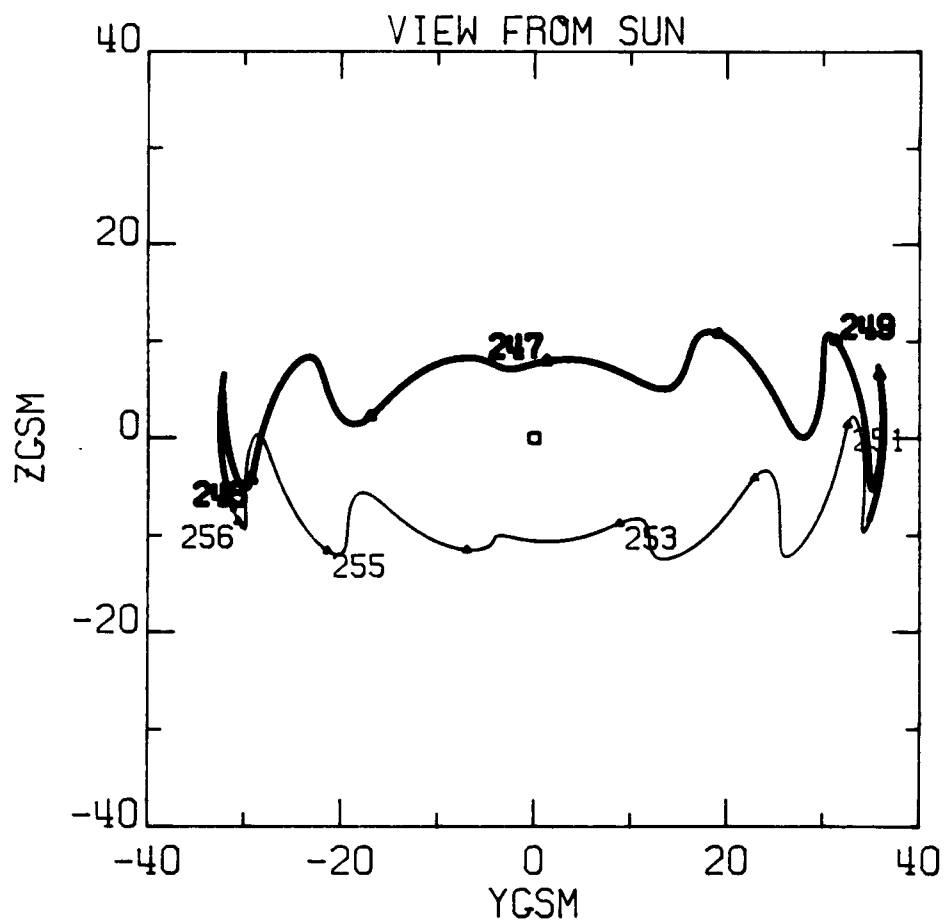
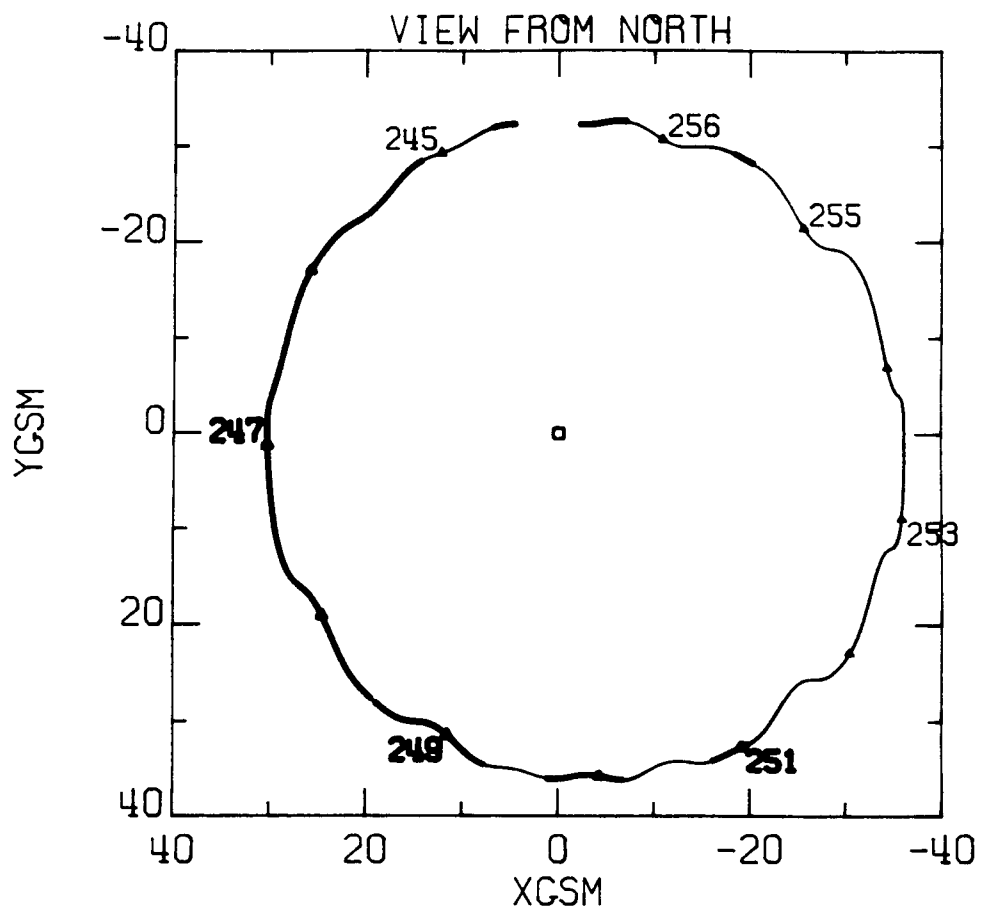
IMP 7 TRAJECTORY. ASCENDING NODE 88

FROM AUG 20 TO SEP 1 1975

DAYS 232 THRU 244



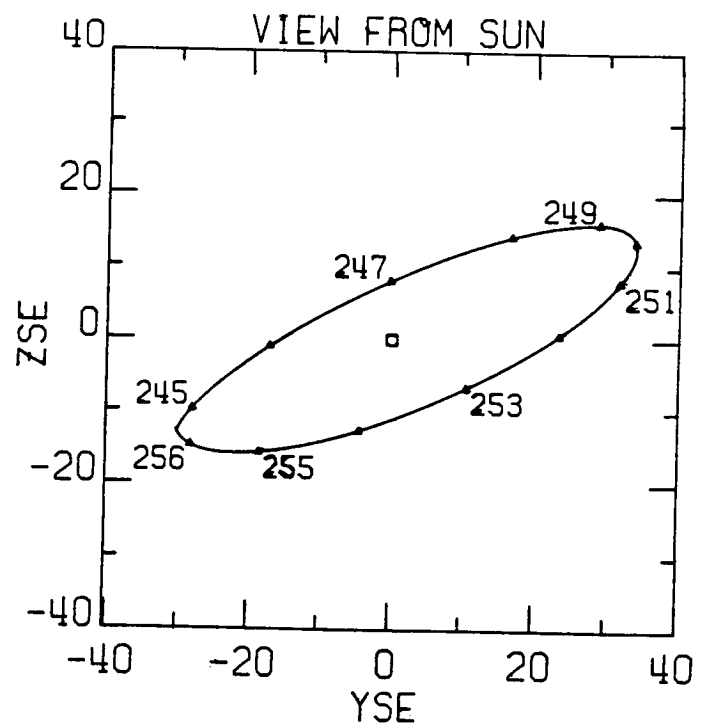
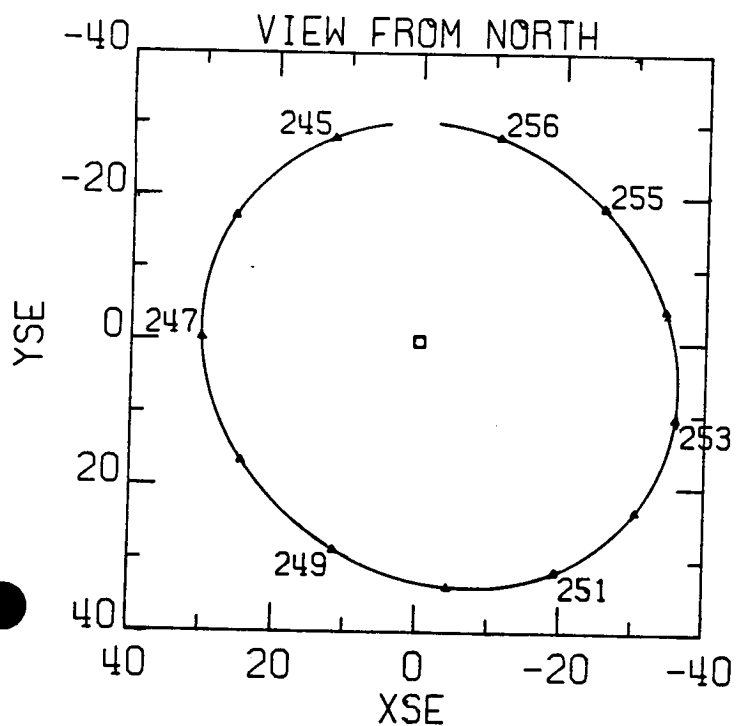
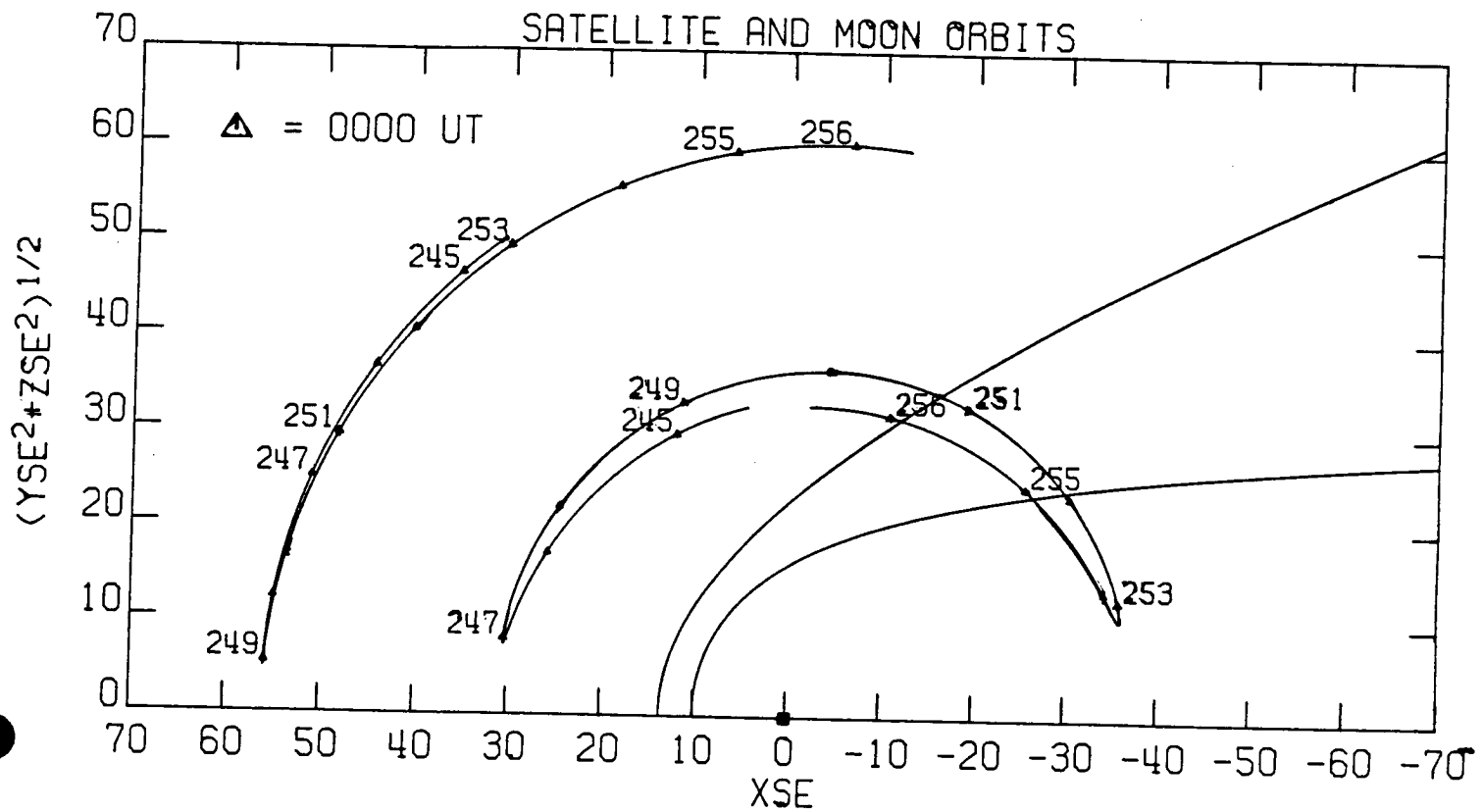
IMP 7 FROM SEP 1 TO SEP 13 1975



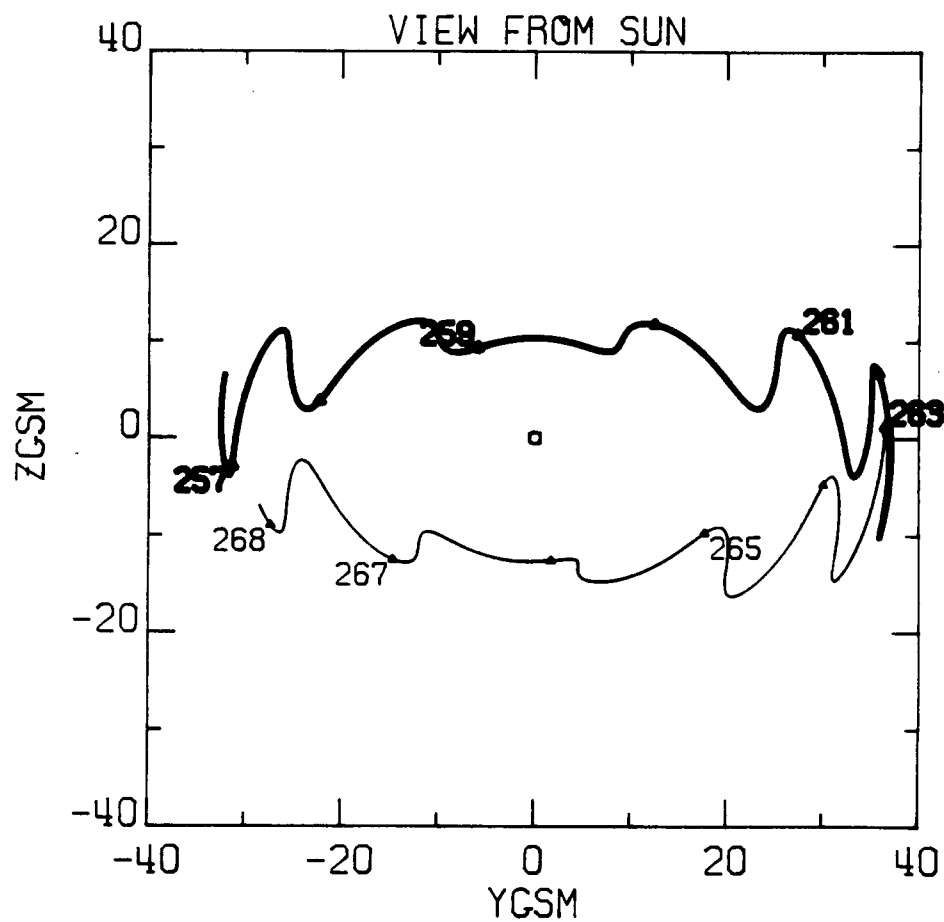
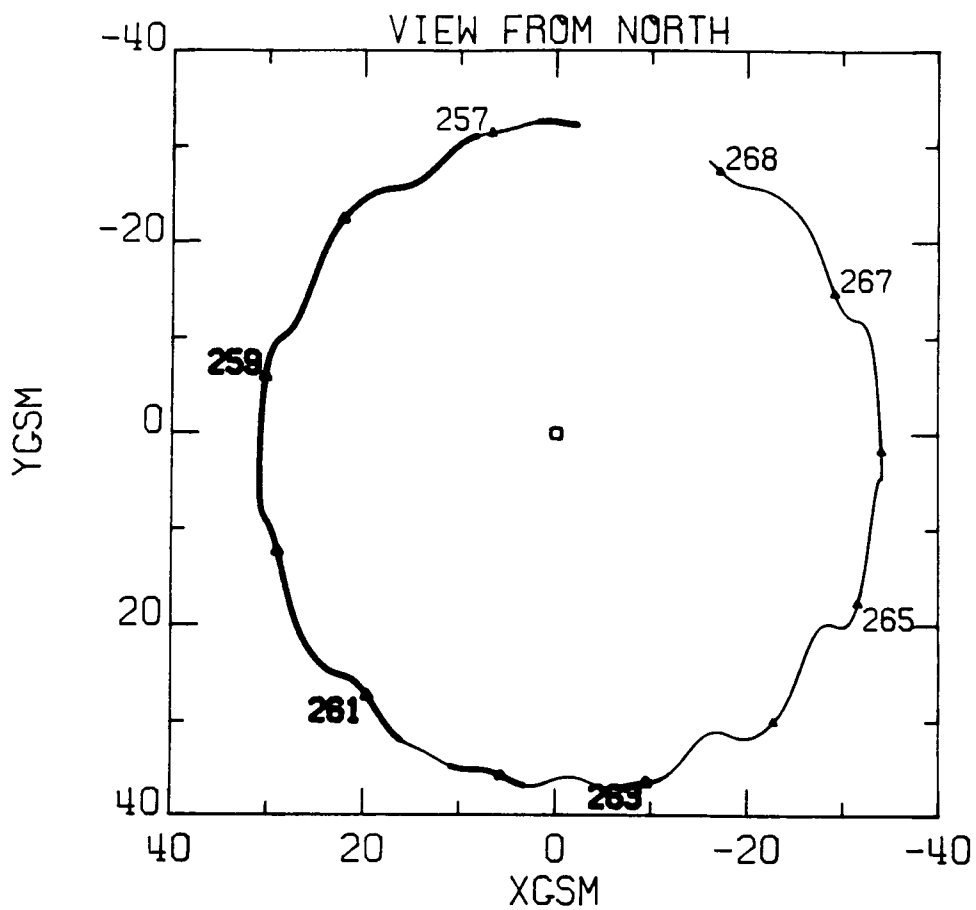
IMP 7 TRAJECTORY. ASCENDING NODE 89

FROM SEP 1 TO SEP 13 1975

DAYS 244 THRU 256



IMP 7 FROM SEP 13 TO SEP 25 1975

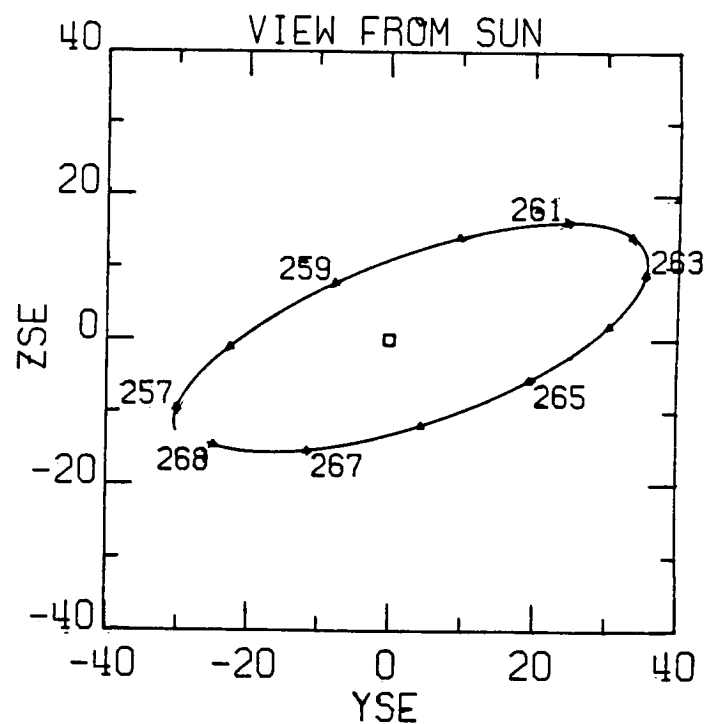
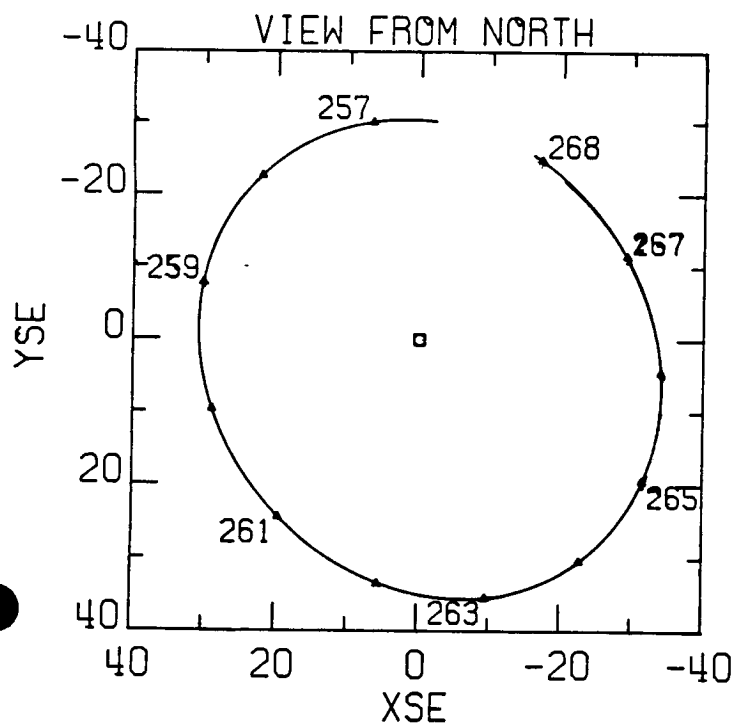
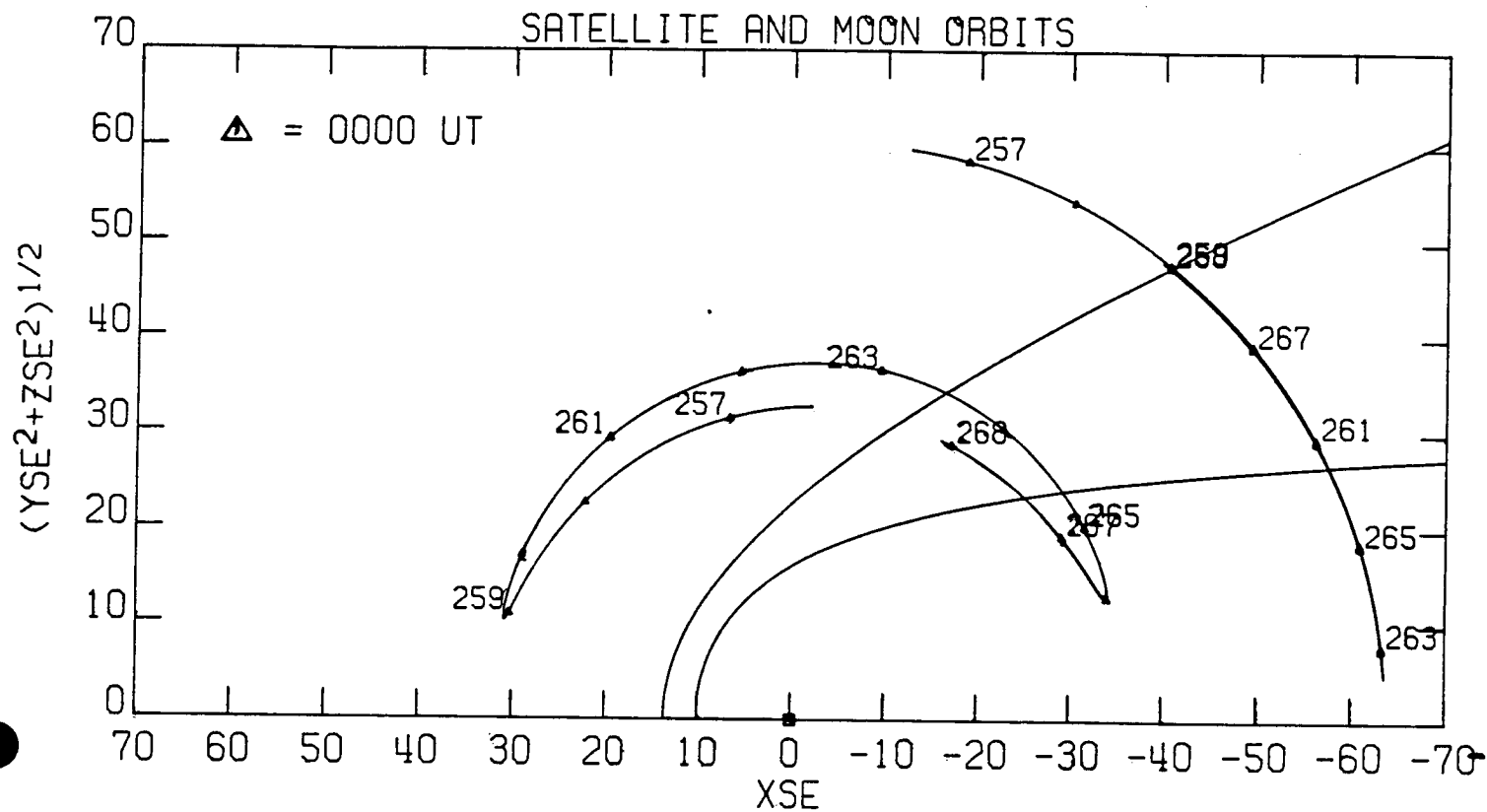


IMP 7 TRAJECTORY.

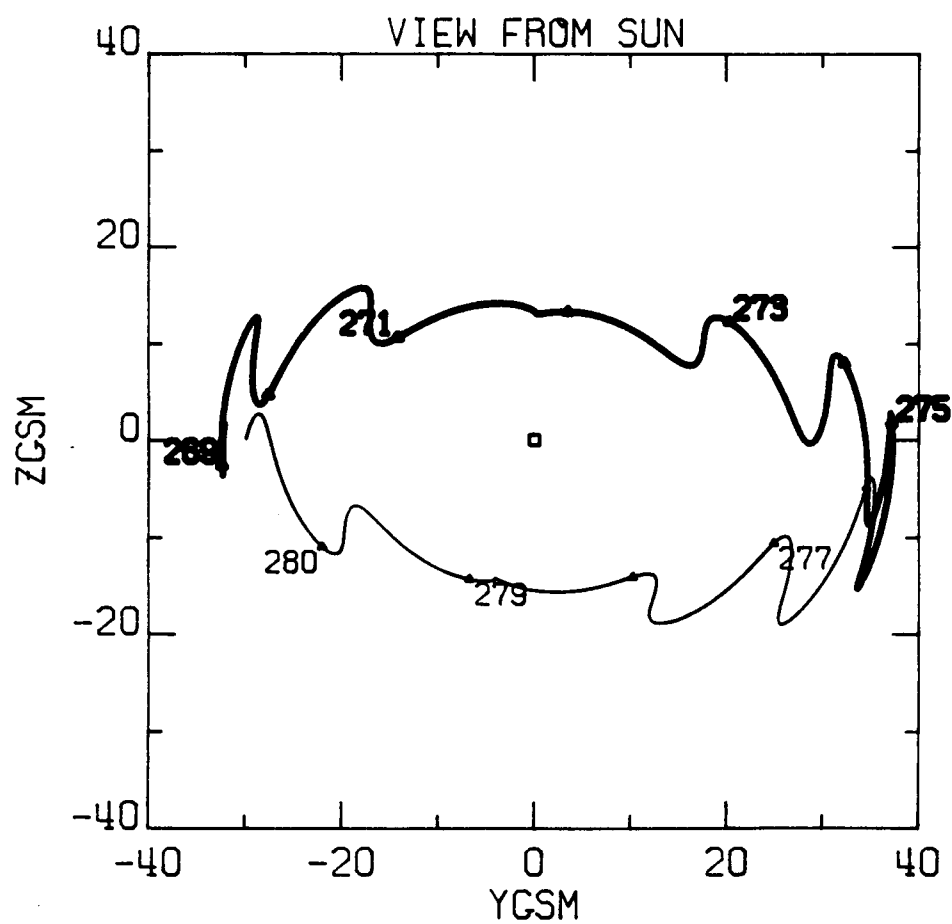
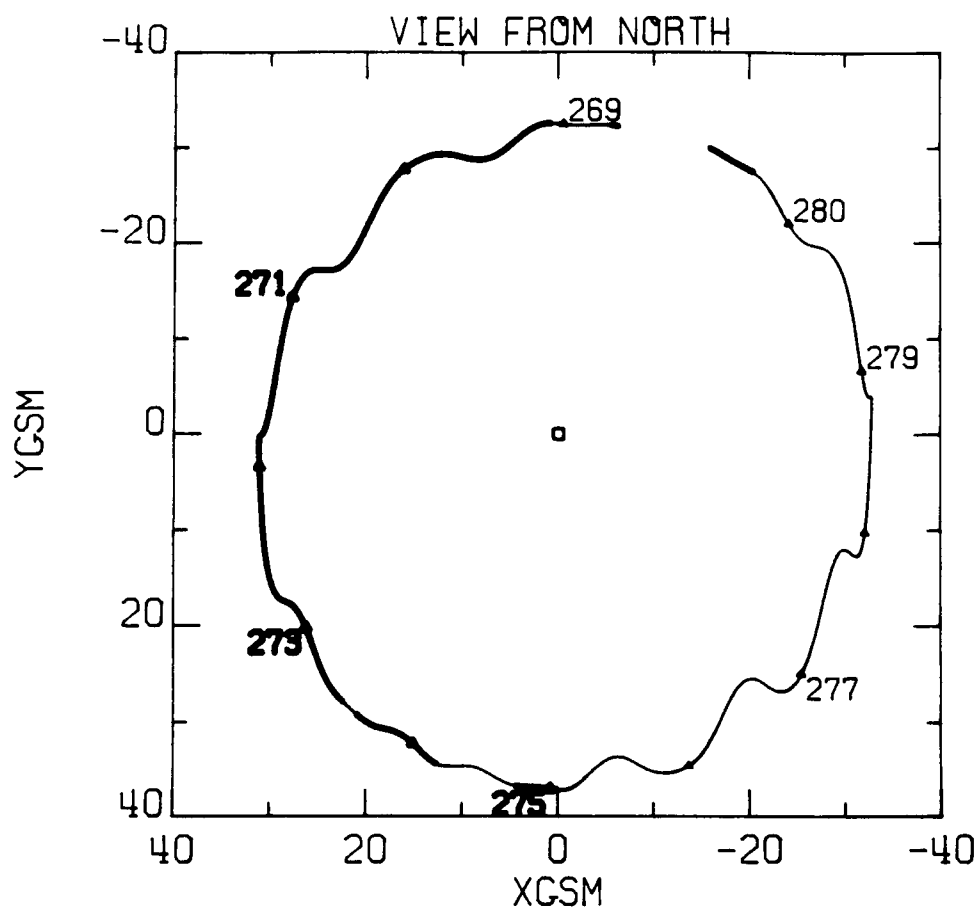
ASCENDING NODE 90

FROM SEP 13 TO SEP 25 1975

DAYS 256 THRU 268



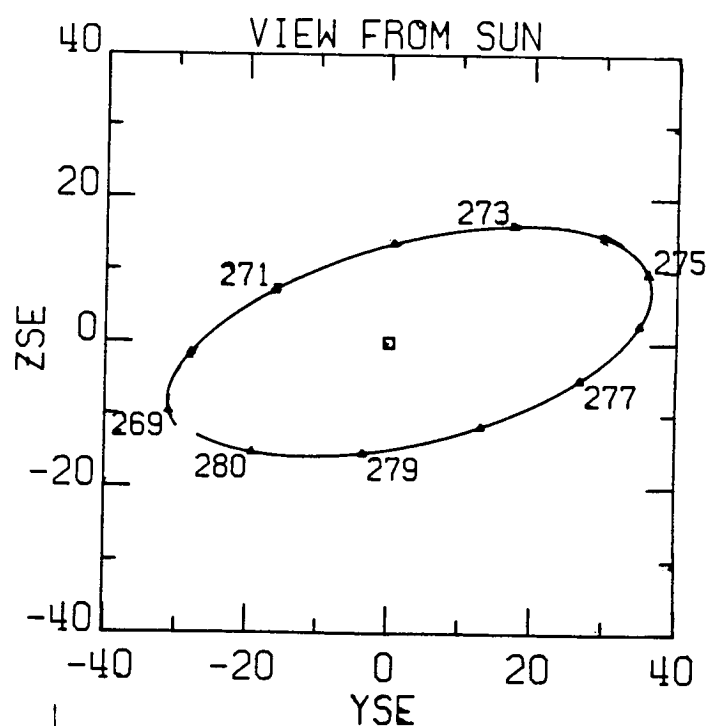
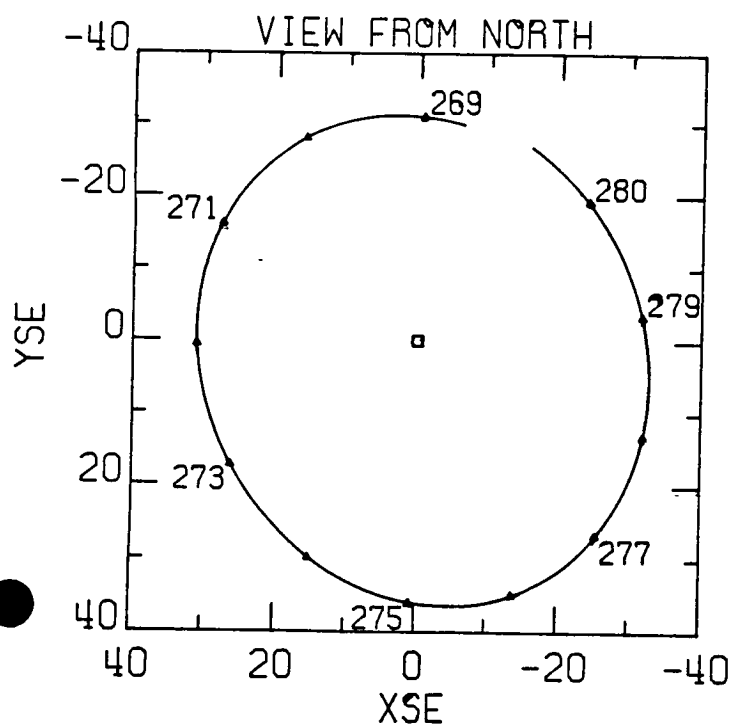
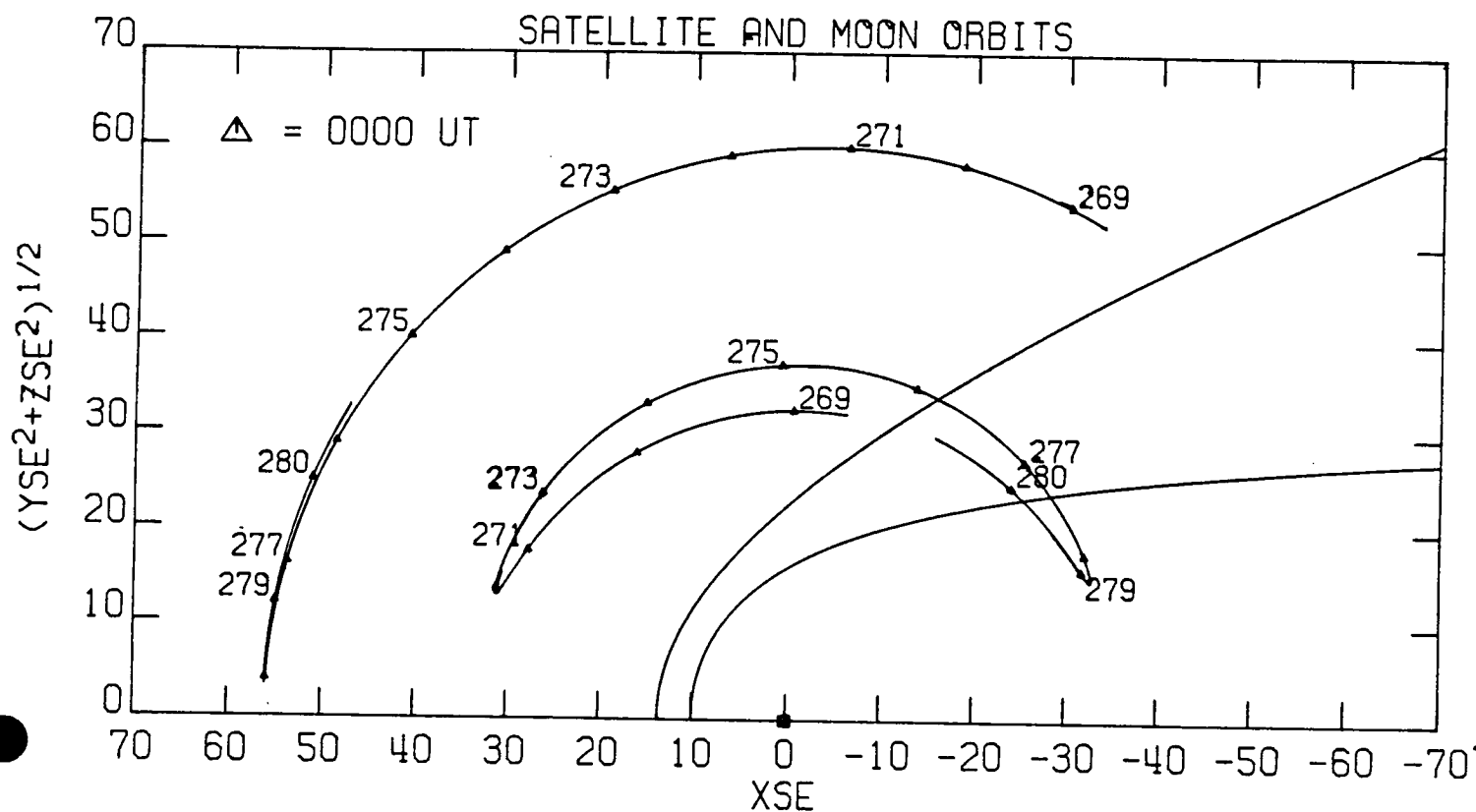
IMP 7 FROM SEP 25 TO OCT 7 1975



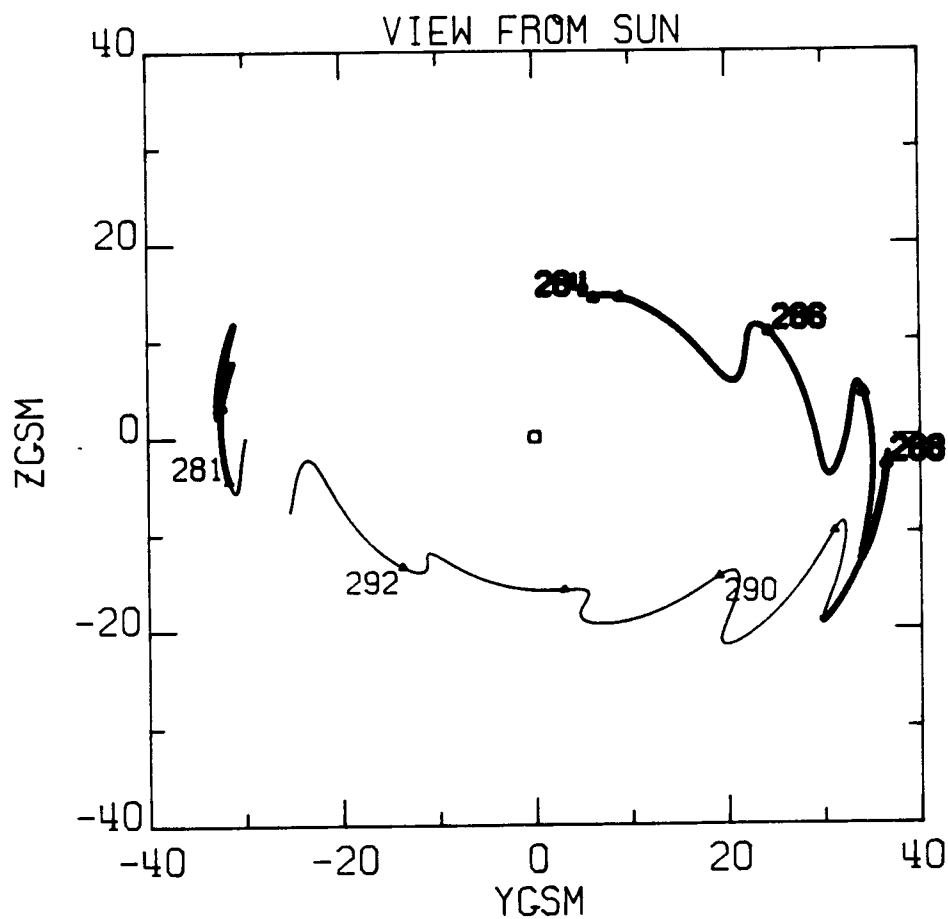
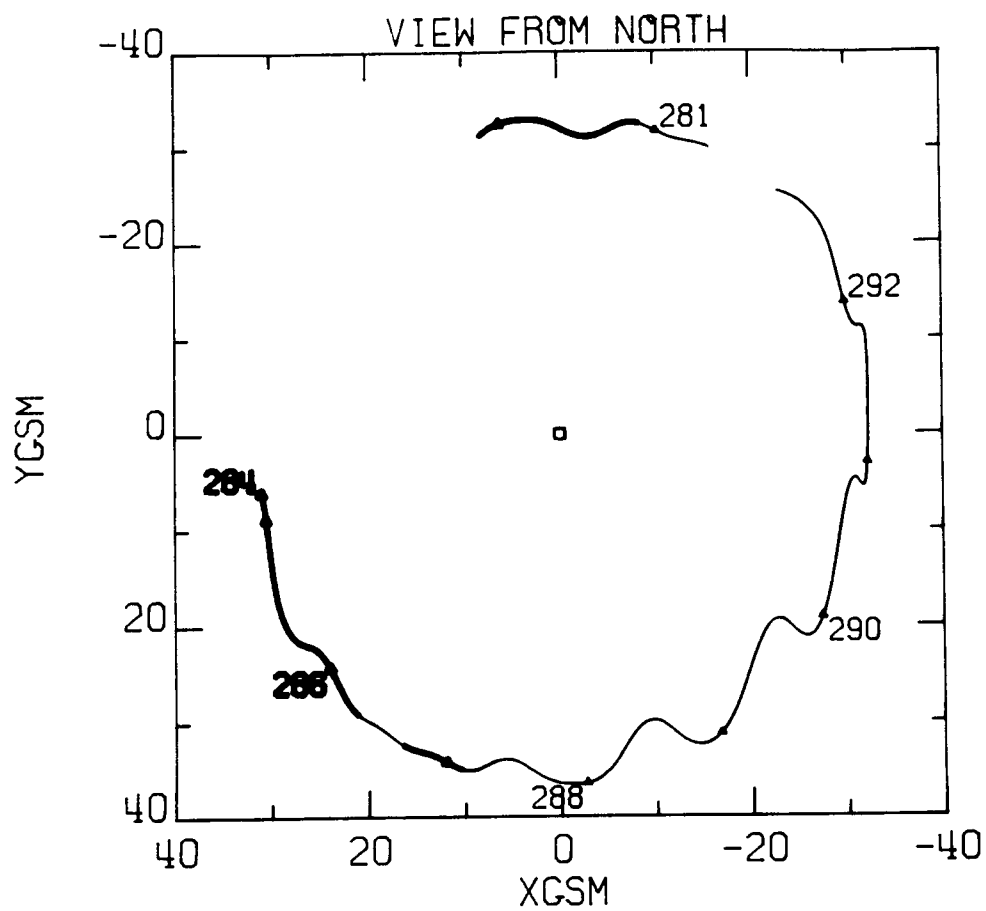
IMP 7 TRAJECTORY. ASCENDING NODE 91

FROM SEP 25 TO OCT 7 1975

DAYS 268 THRU 280



IMP 7 FROM OCT 7 TO OCT 19 1975

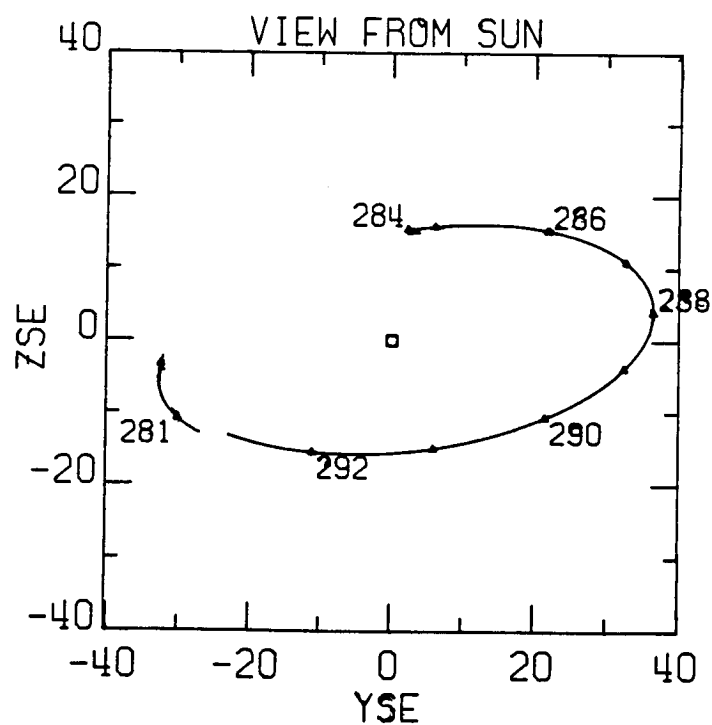
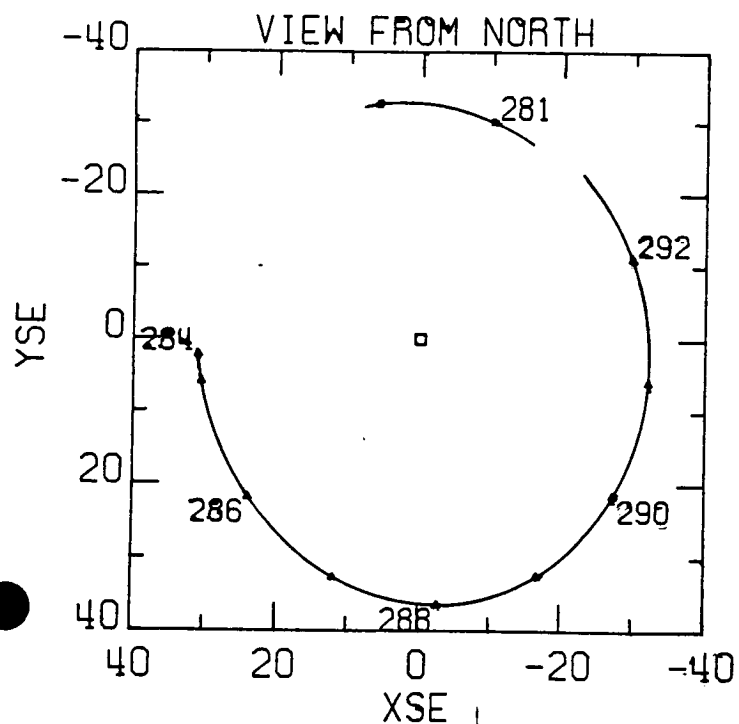
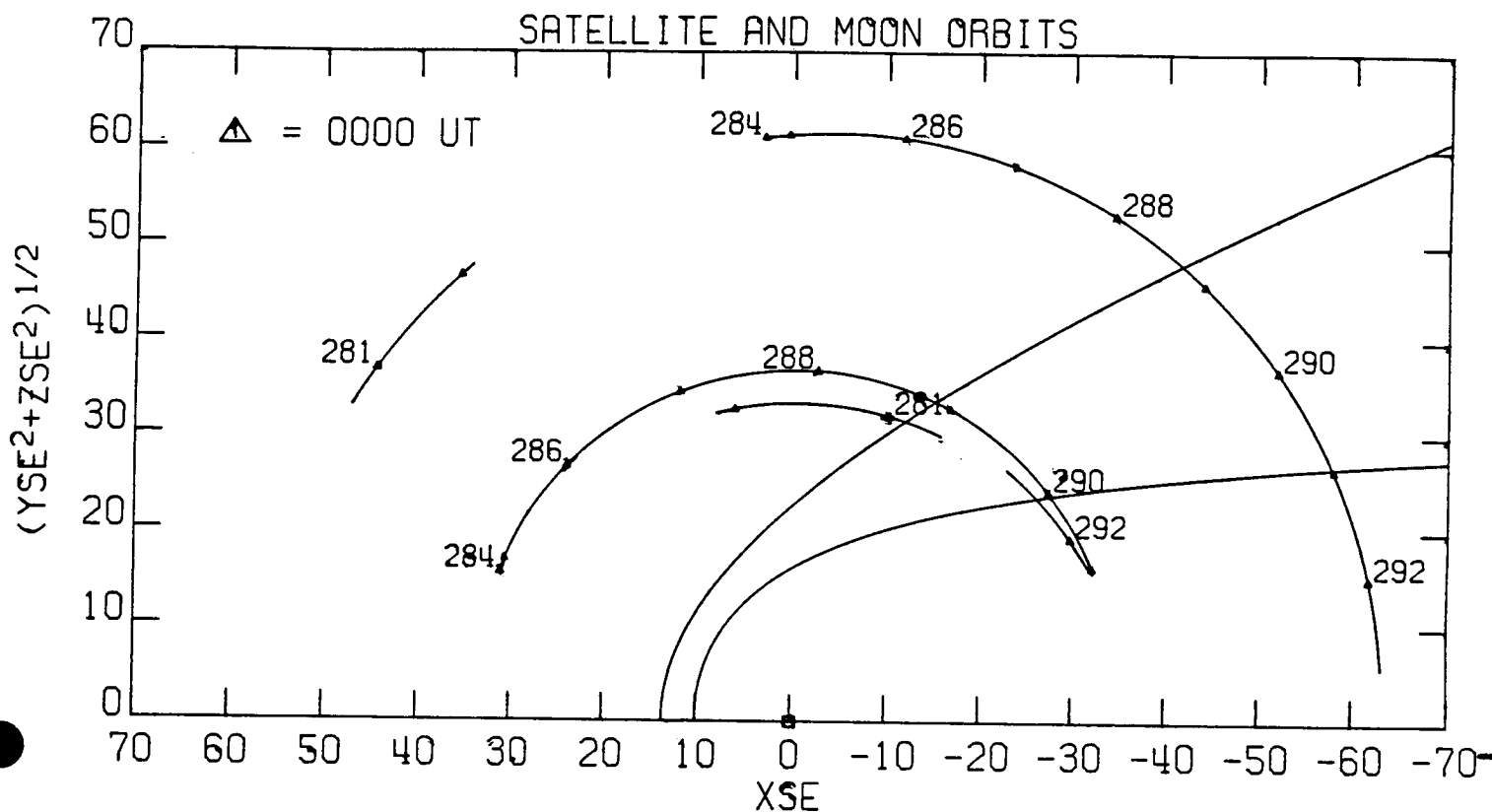


IMP 7 TRAJECTORY.

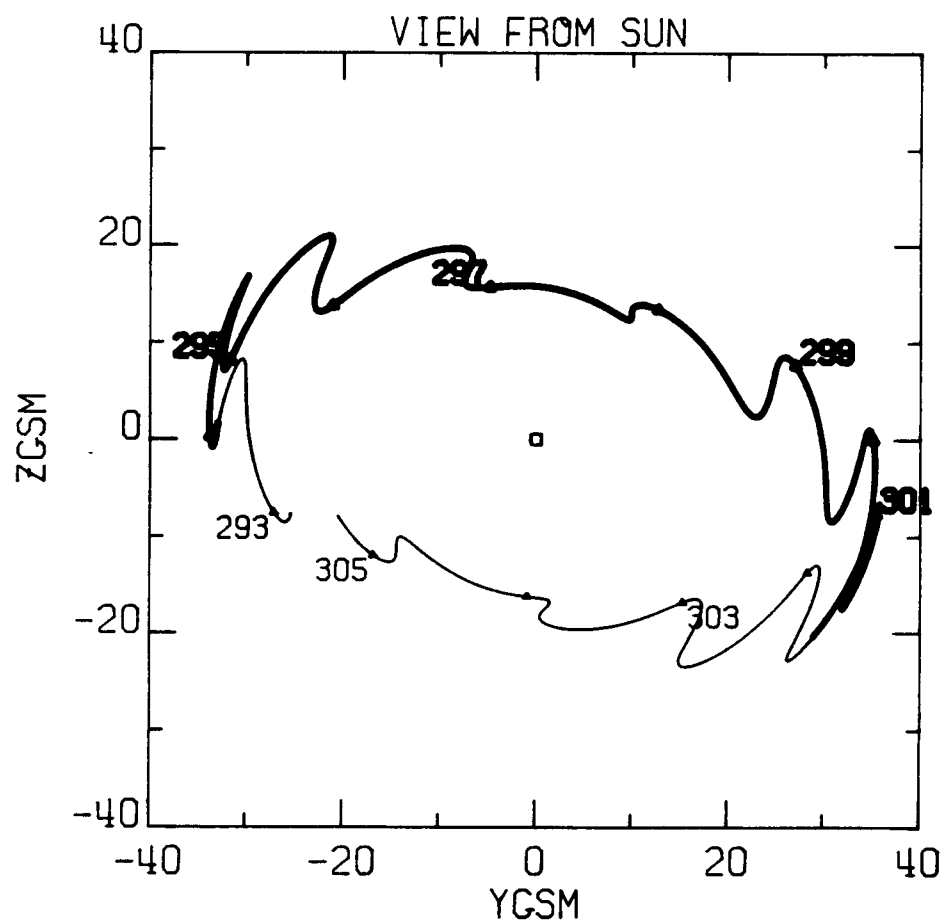
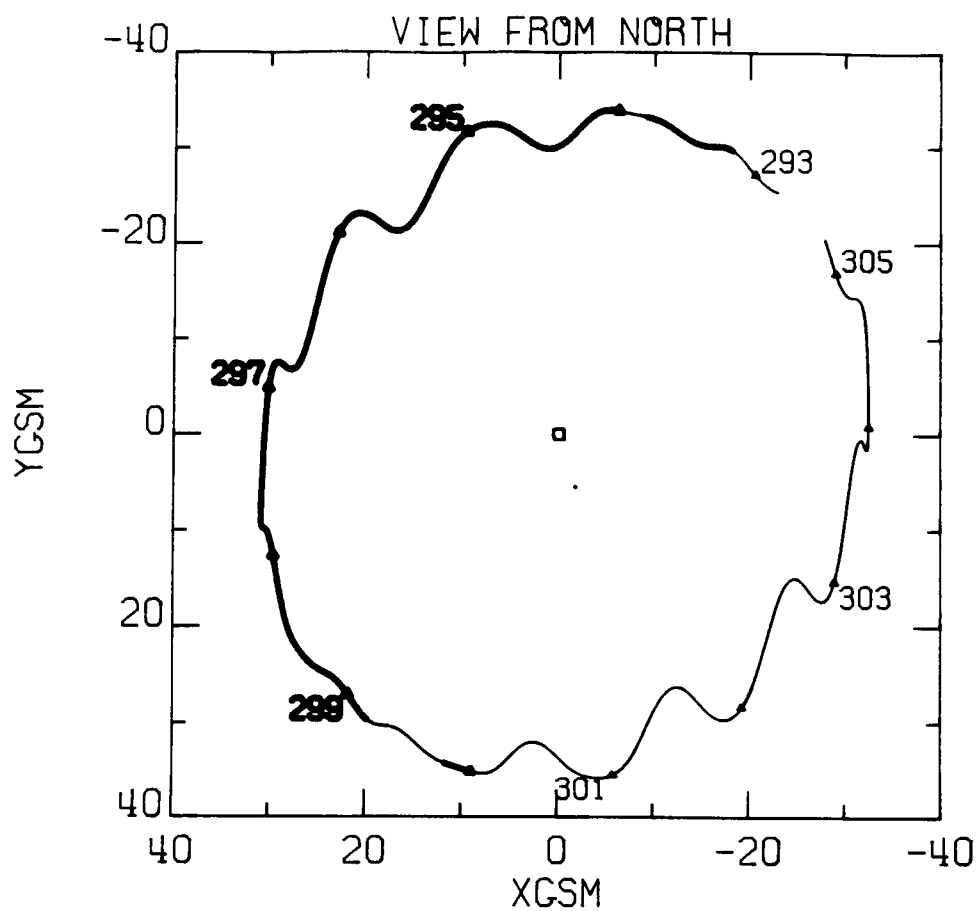
ASCENDING NODE 92

FROM OCT 7 TO OCT 19 1975

DAYS 280 THRU 292



IMP 7 FROM OCT 19 TO NOV 1 1975

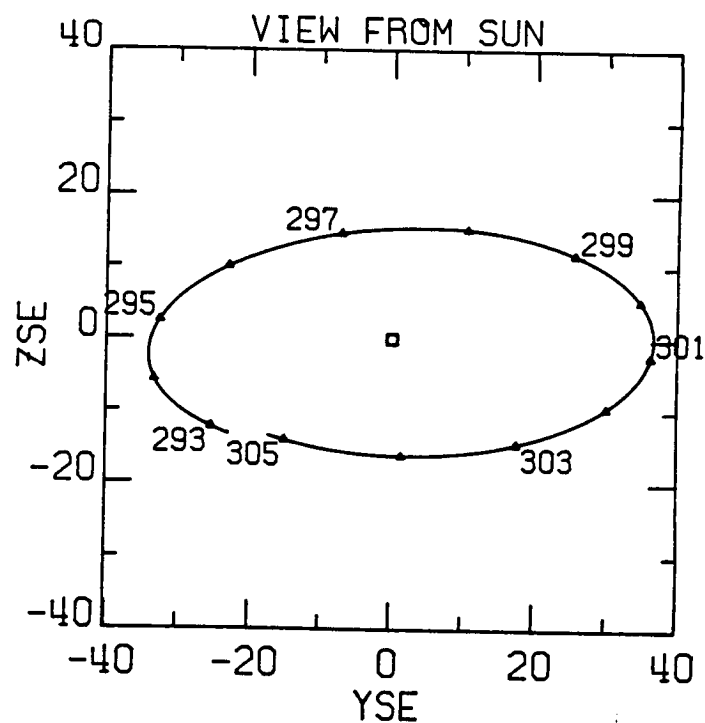
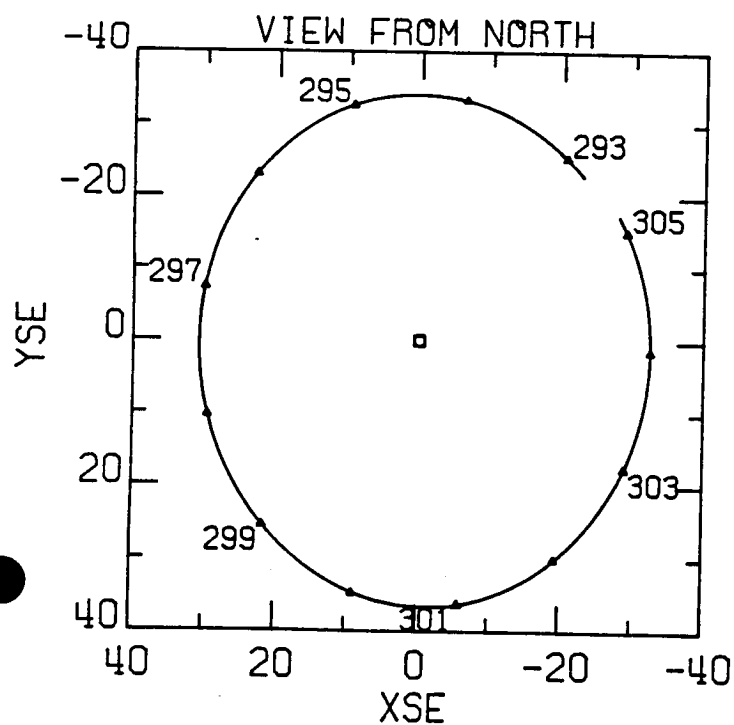
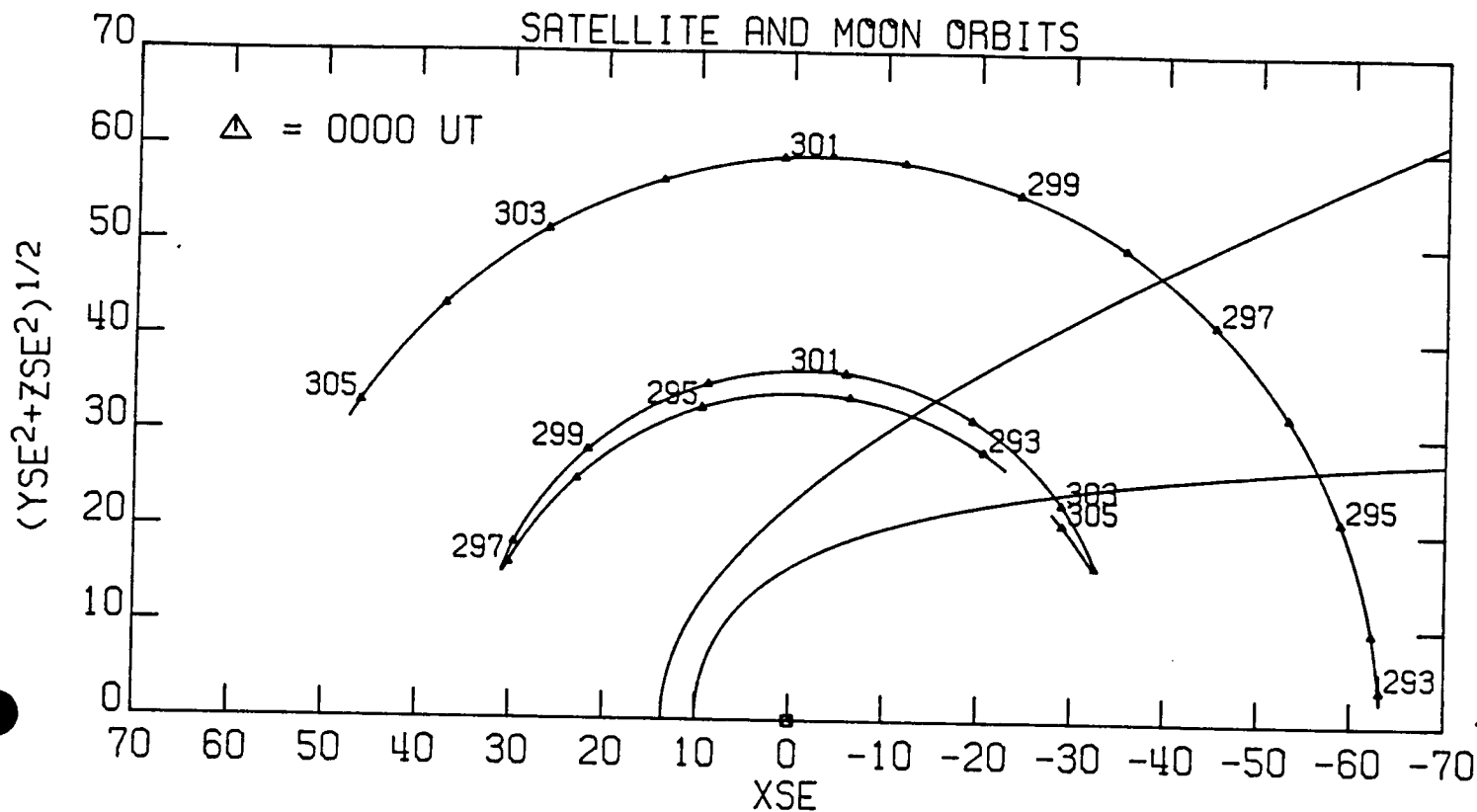


IMP 7 TRAJECTORY.

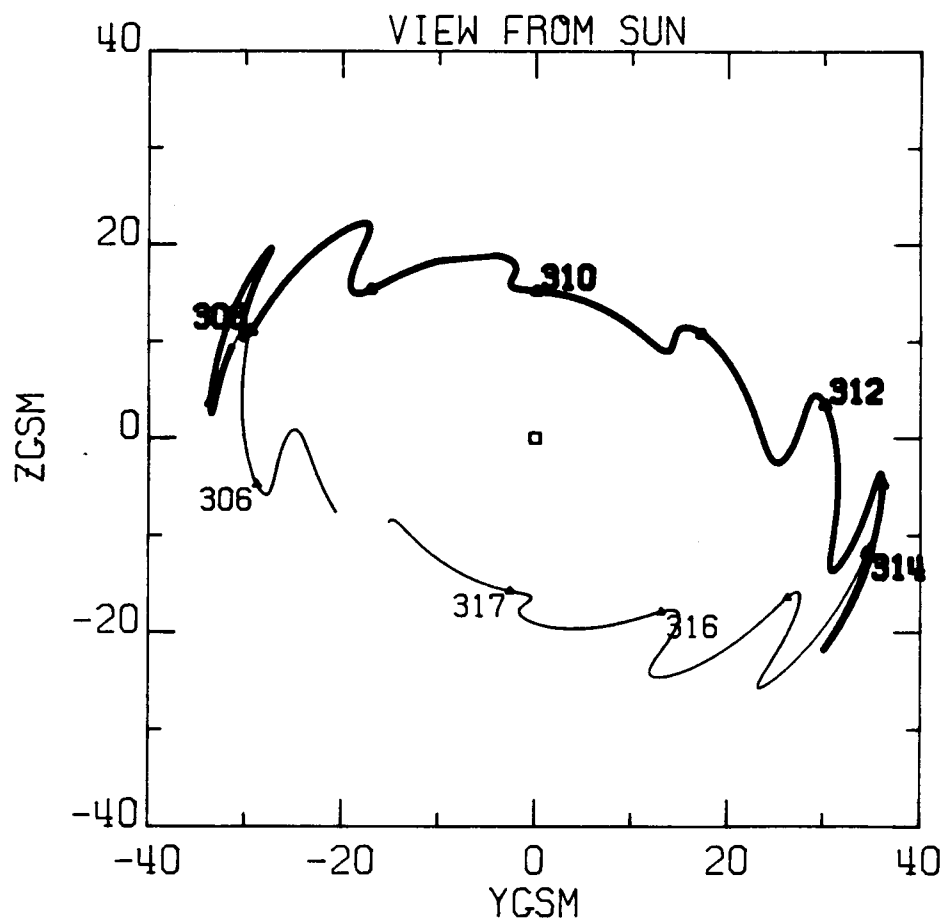
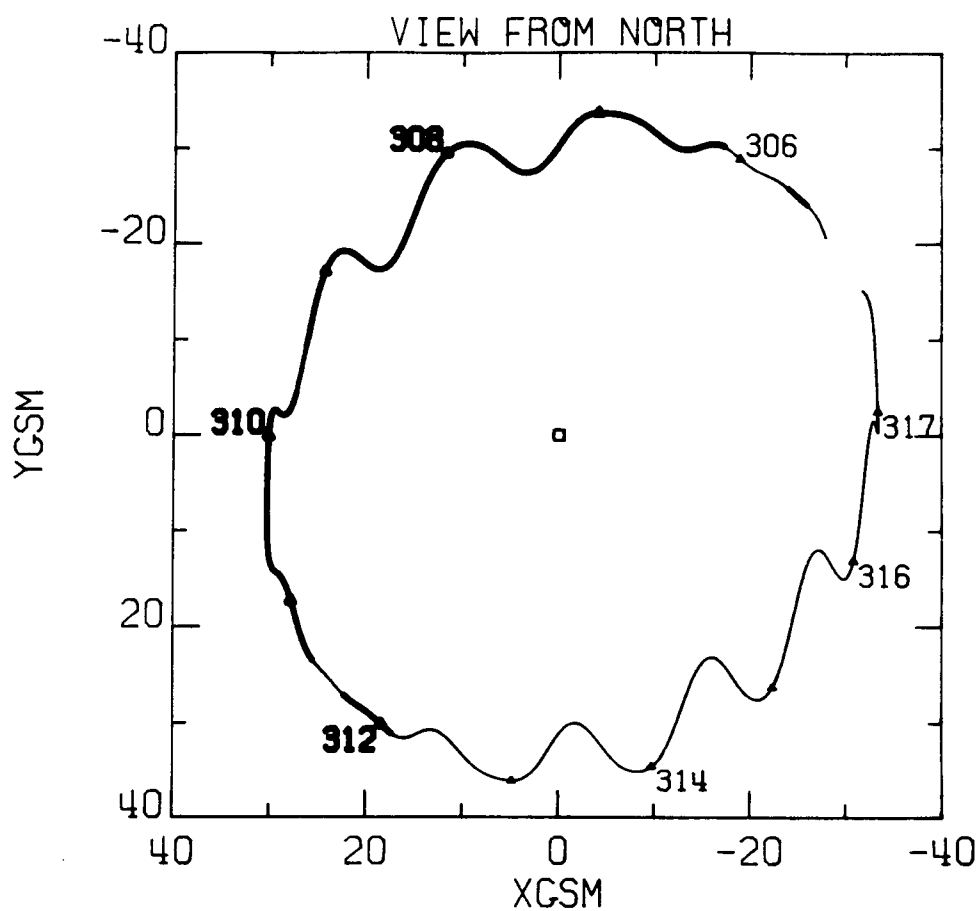
ASCENDING NODE 93

FROM OCT 19 TO NOV 1 1975

DAYS 292 THRU 305



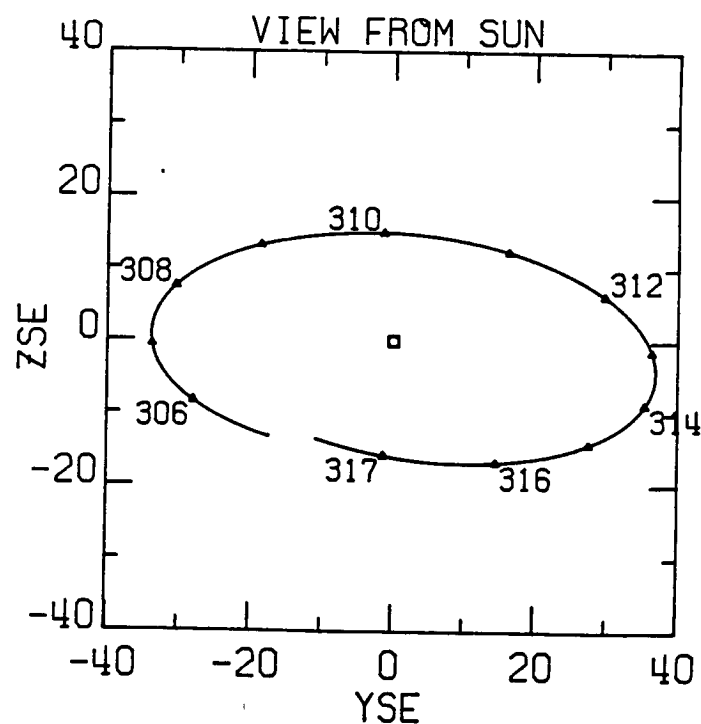
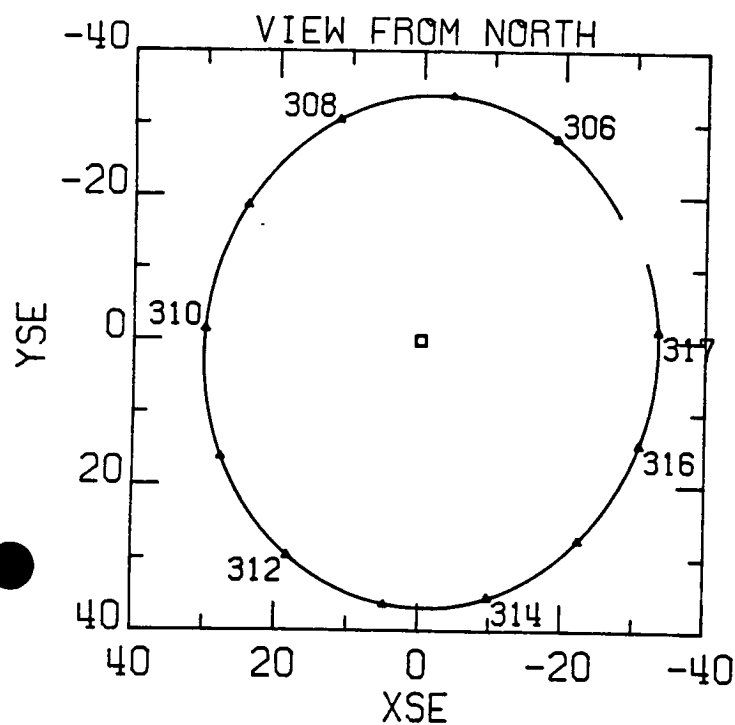
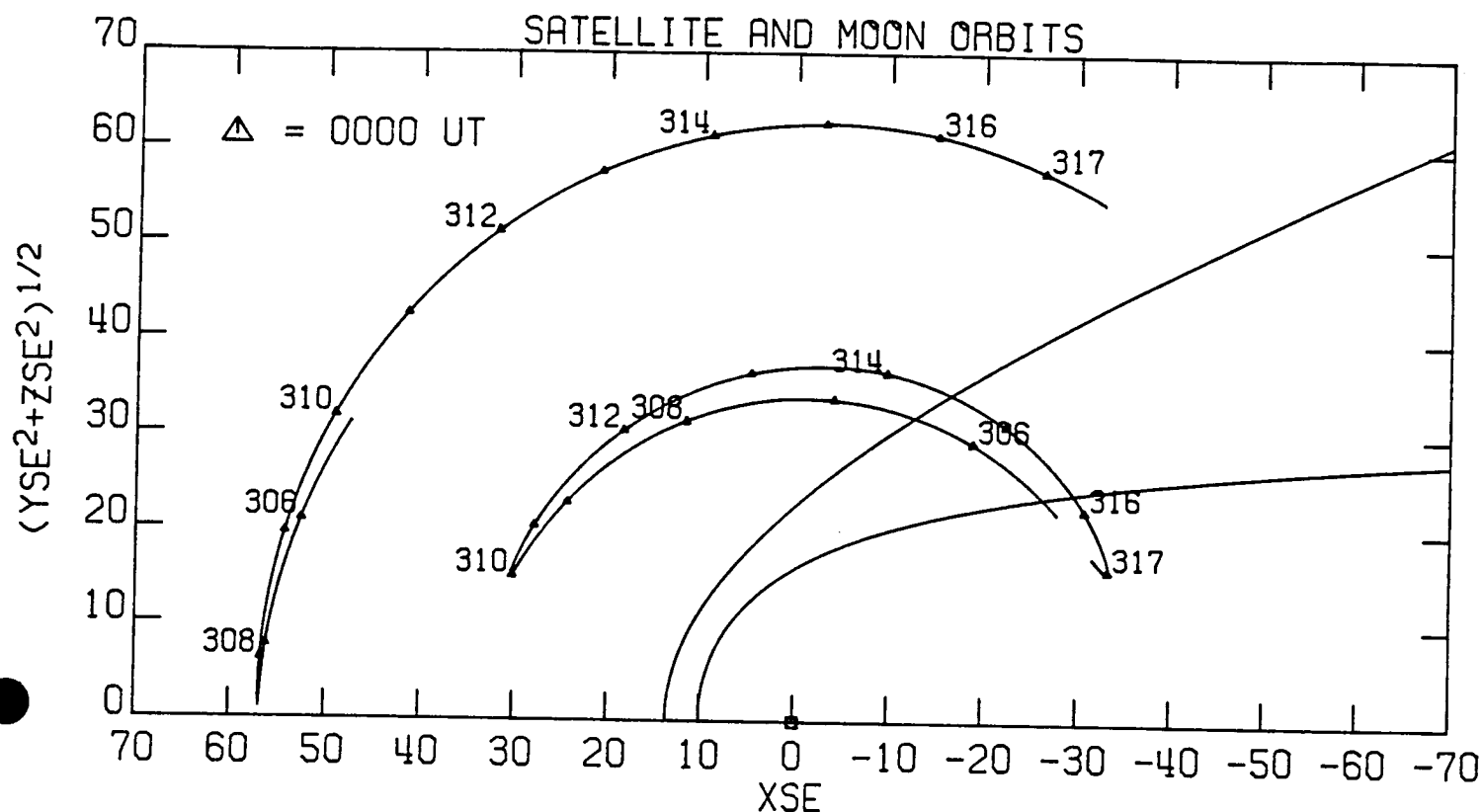
IMP 7 FROM NOV 1 TO NOV 13 1975



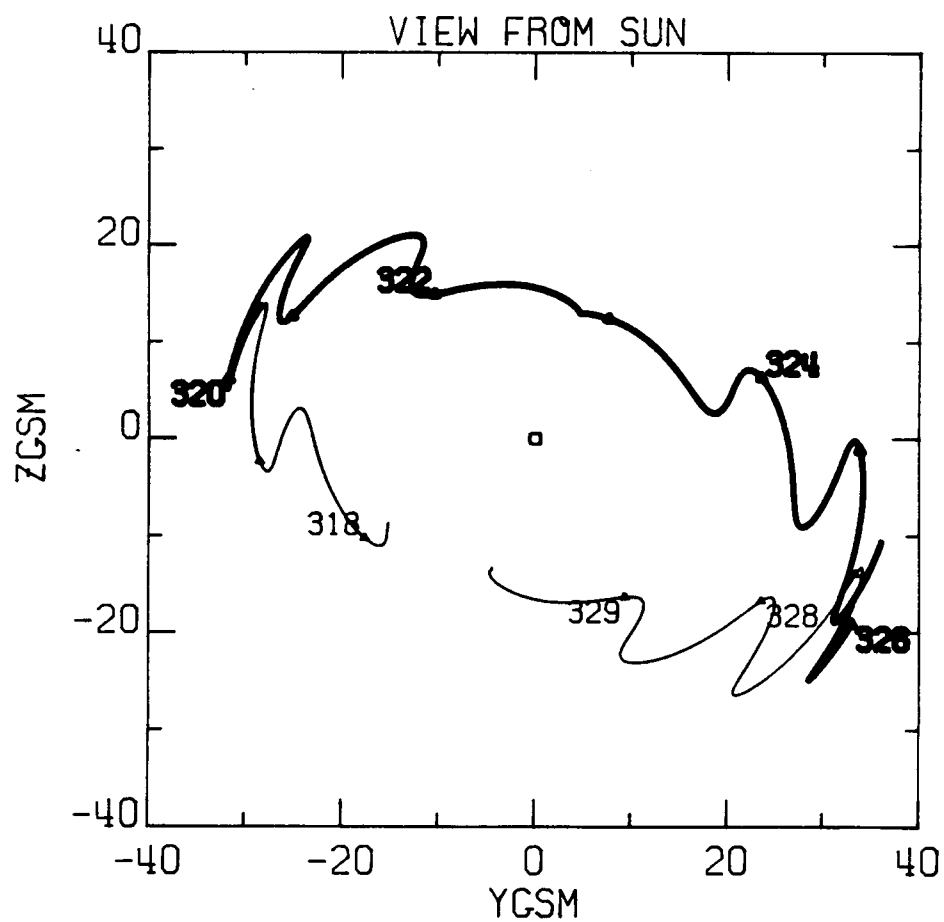
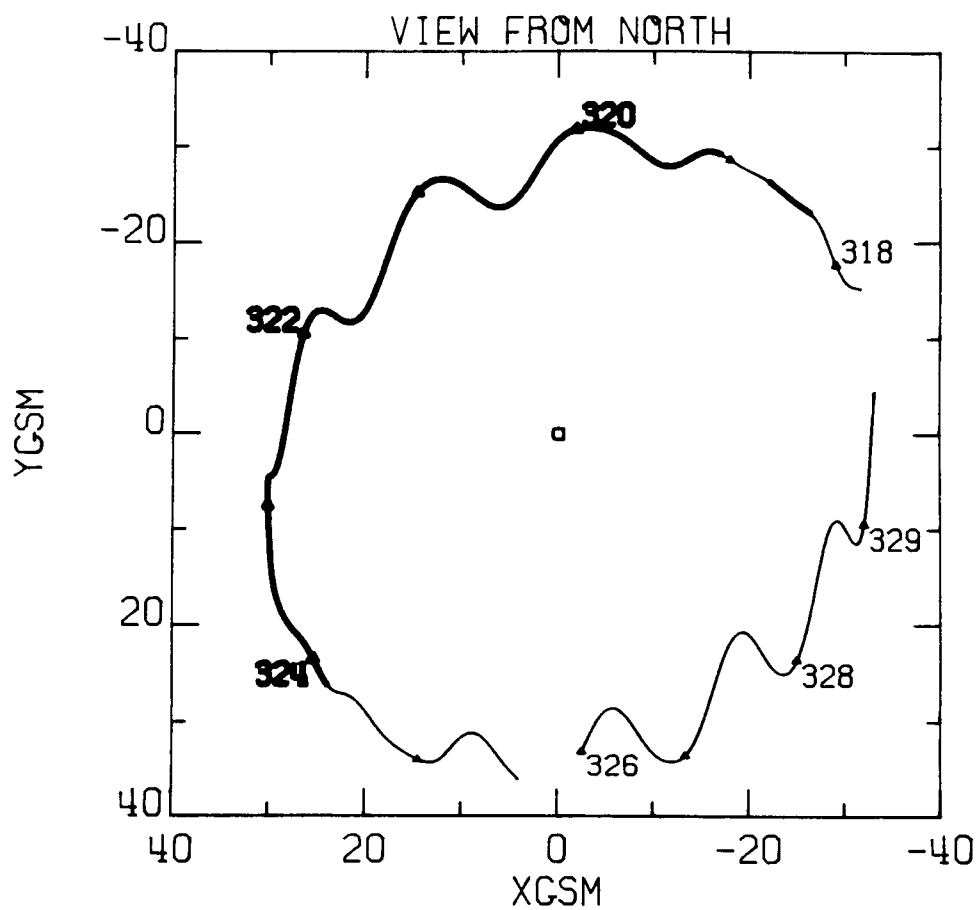
IMP 7 TRAJECTORY. ASCENDING NODE 94

FROM NOV 1 TO NOV 13 1975

DAYS 305 THRU 317



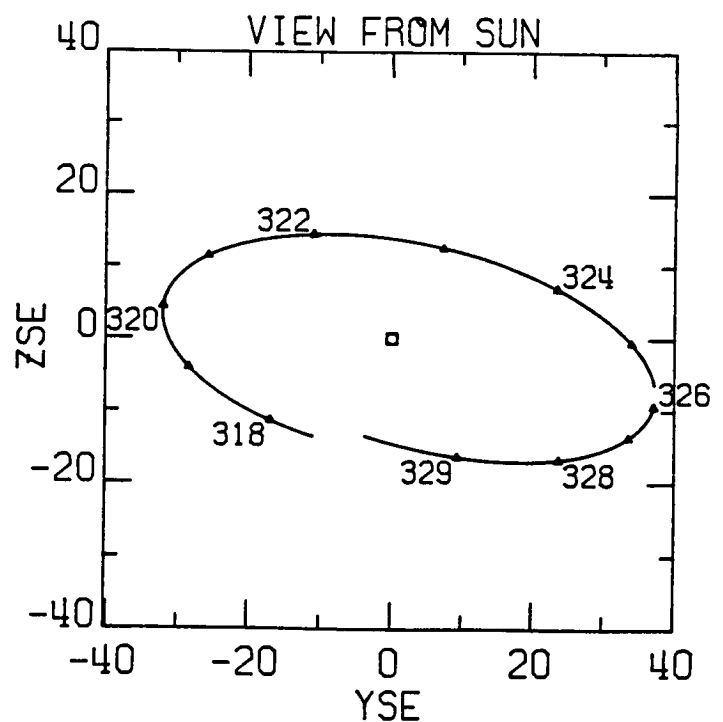
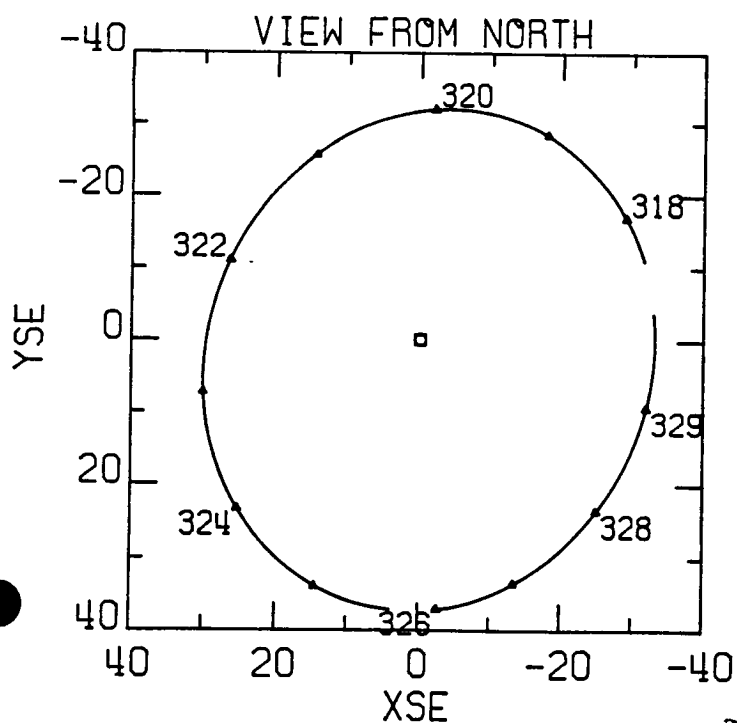
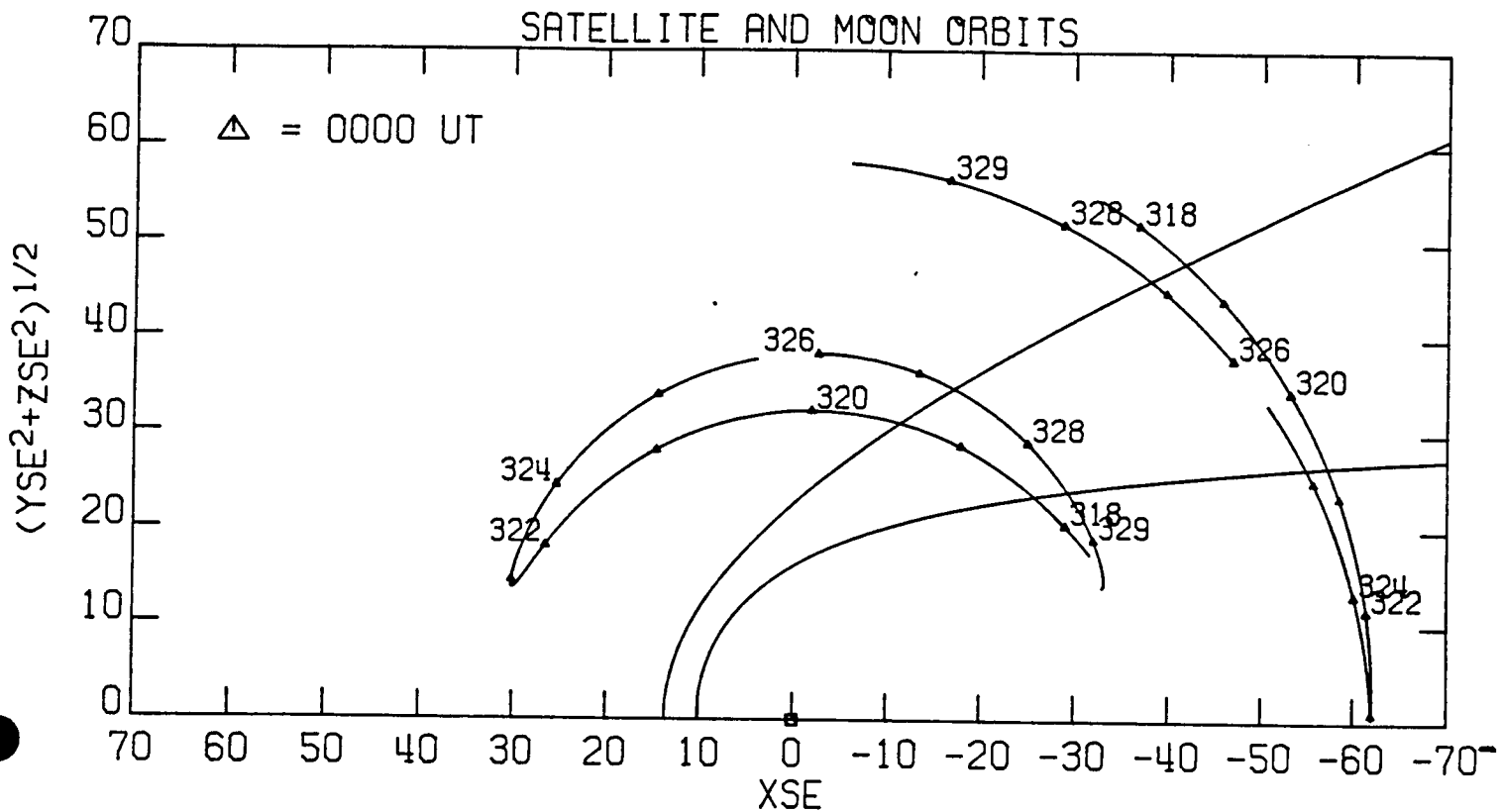
IMP 7 FROM NOV 13 TO NOV 25 1975



IMP 7 TRAJECTORY. ASCENDING NODE 95

FROM NOV 13 TO NOV 25 1975

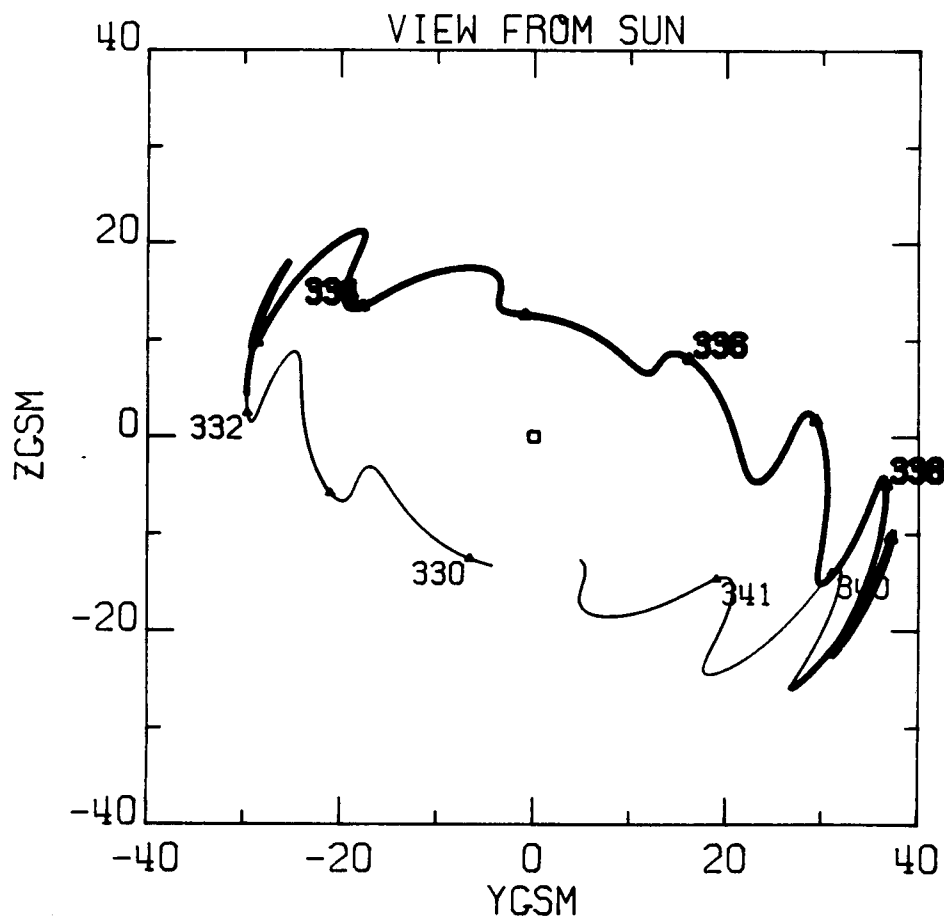
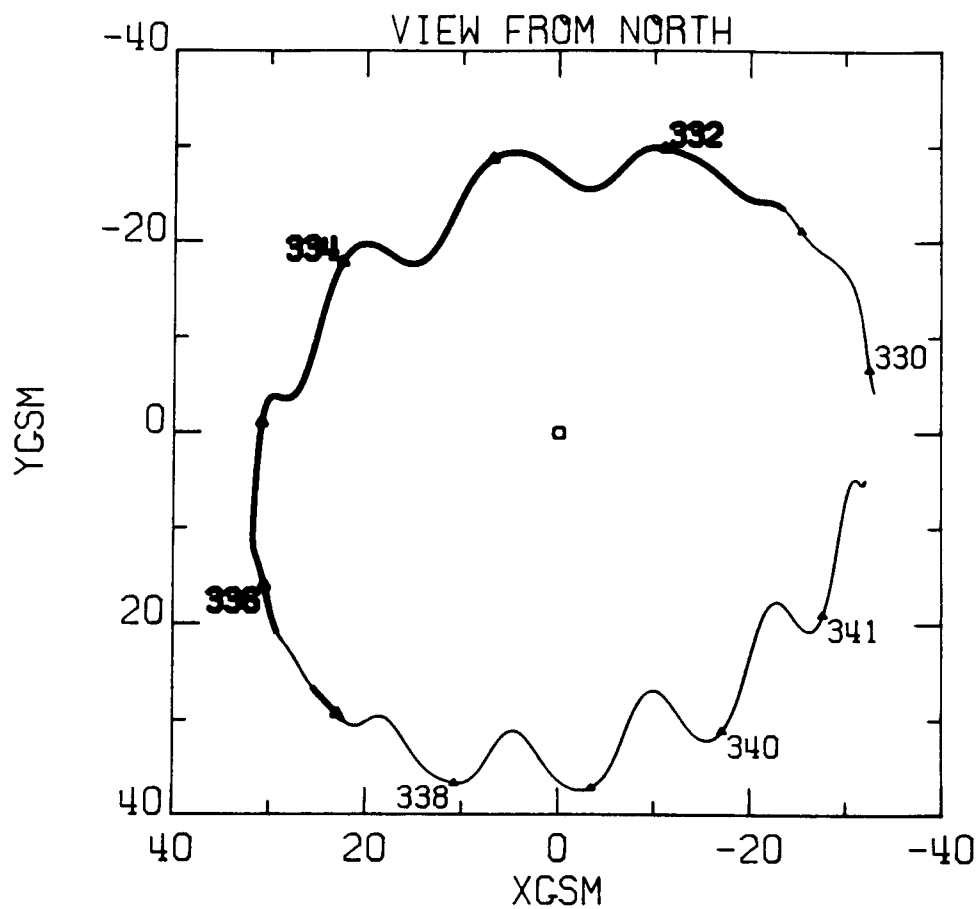
DAYS 317 THRU 329



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IMP 7 FROM NOV 25 TO DEC 7 1975

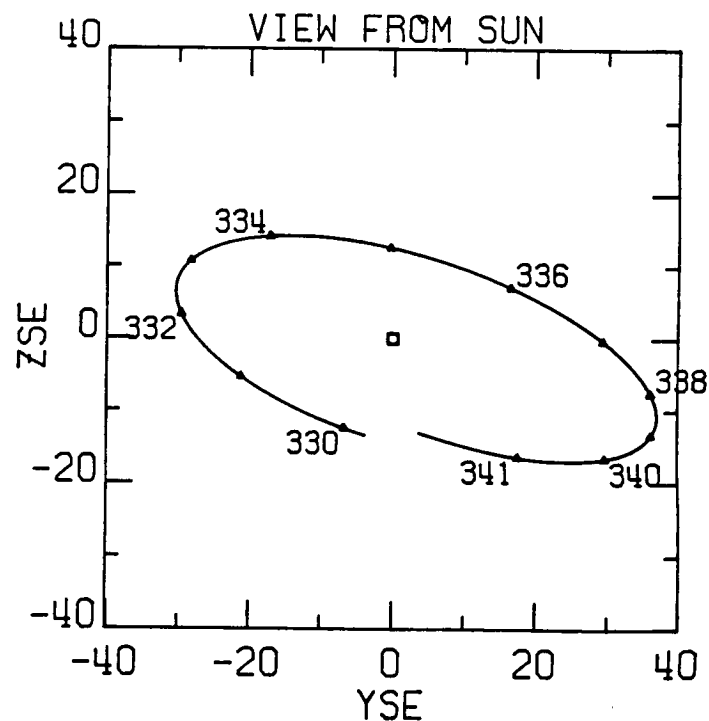
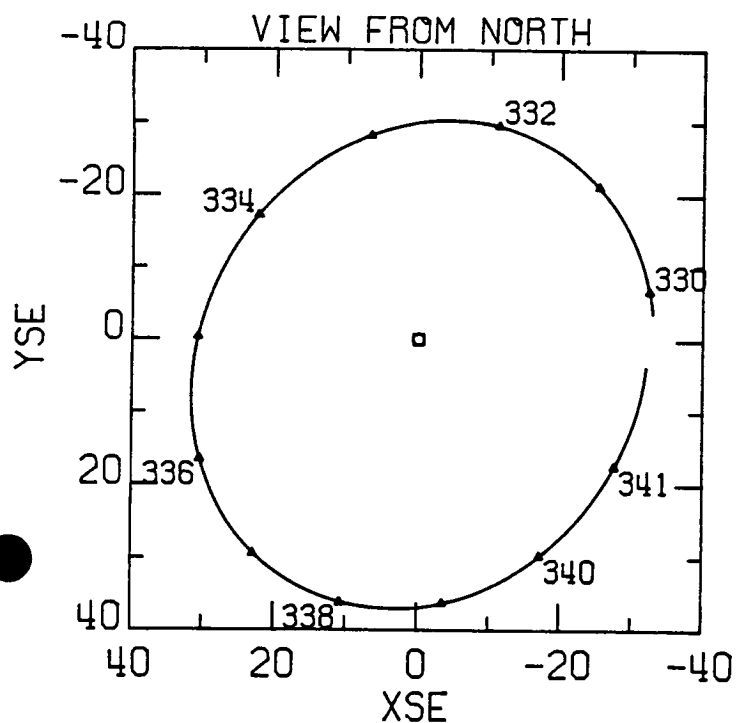
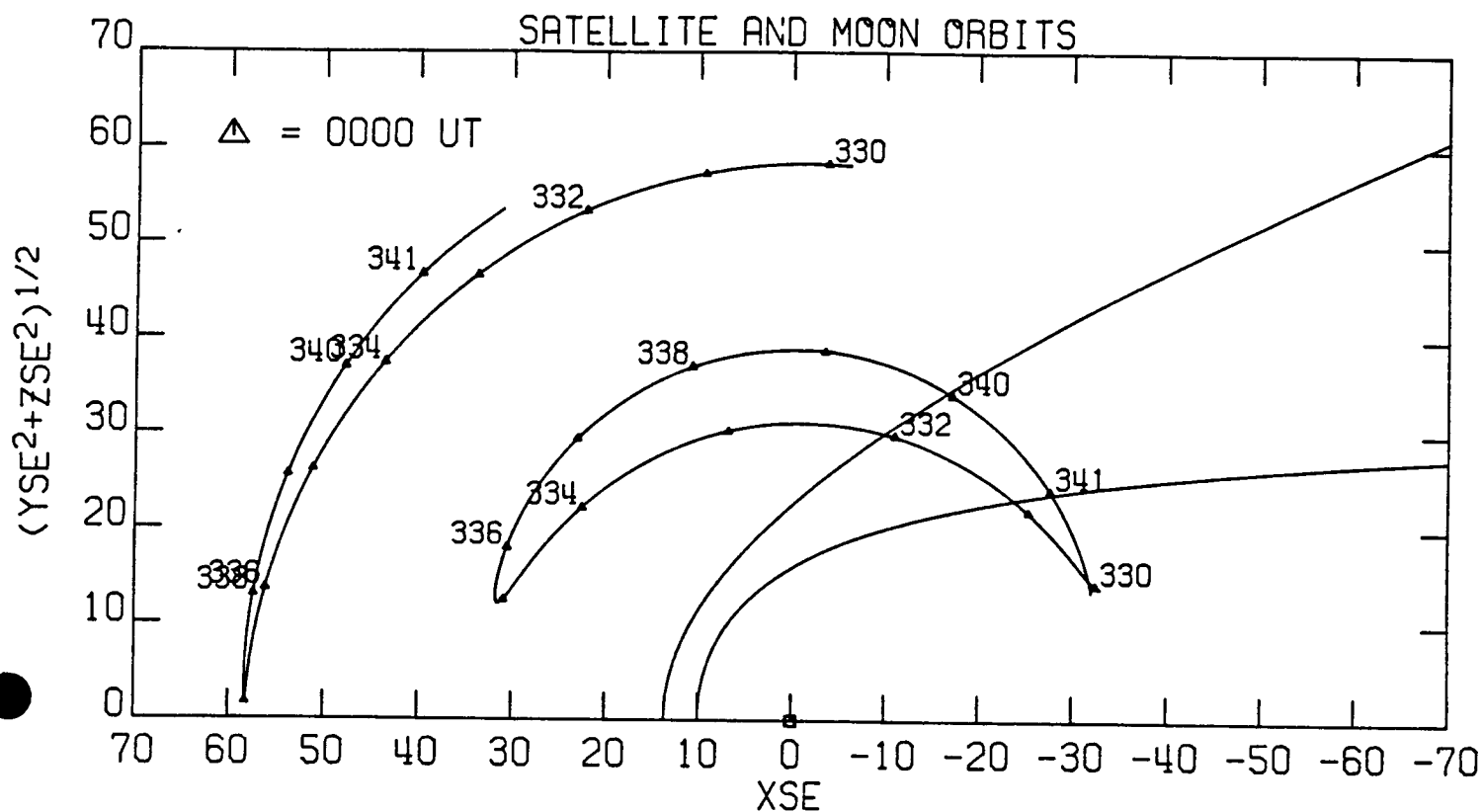


IMP 7 TRAJECTORY.

ASCENDING NODE 96

FROM NOV 25 TO DEC 7 1975

DAYS 329 THRU 341



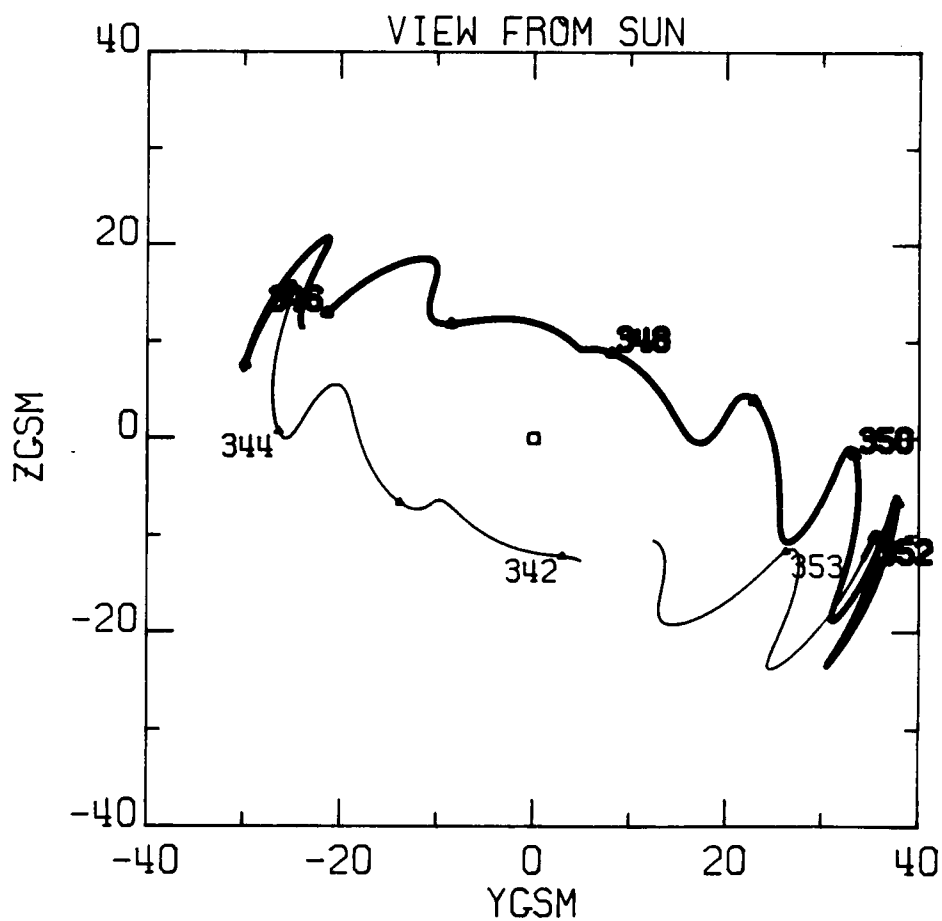
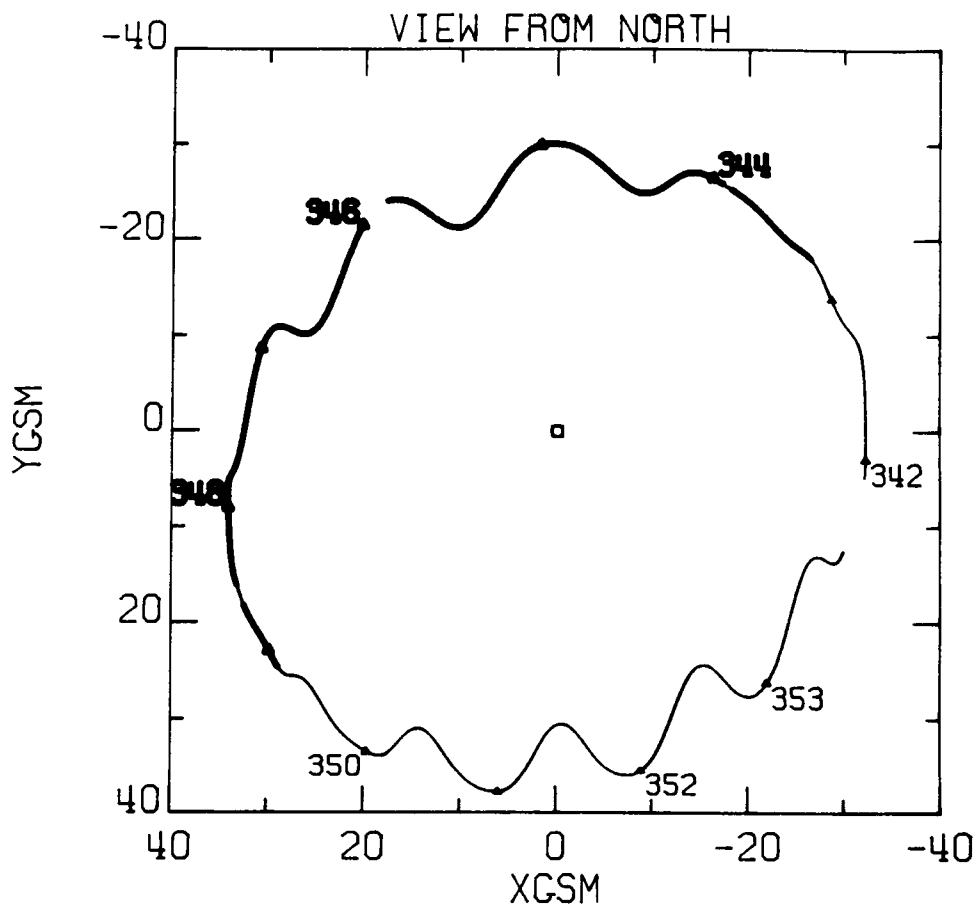
CSRIMP99

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Center for Space Research

M.I.T.

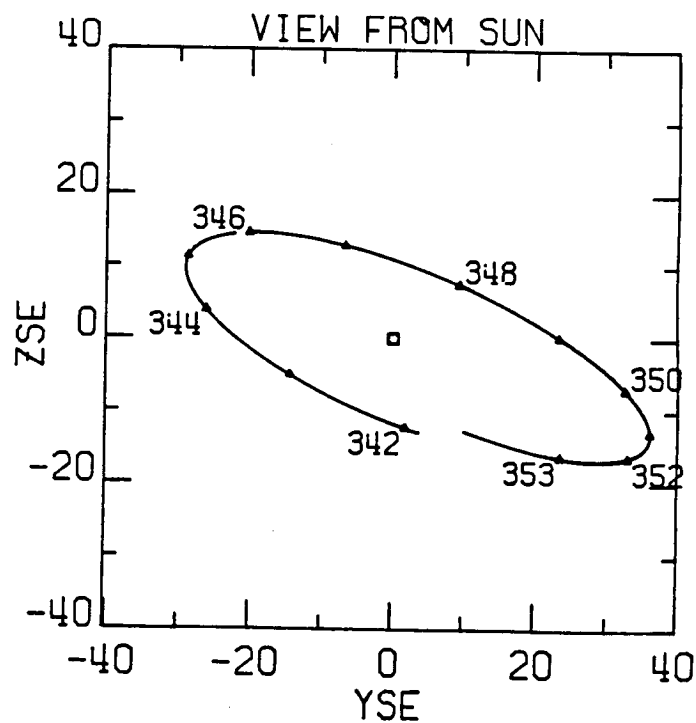
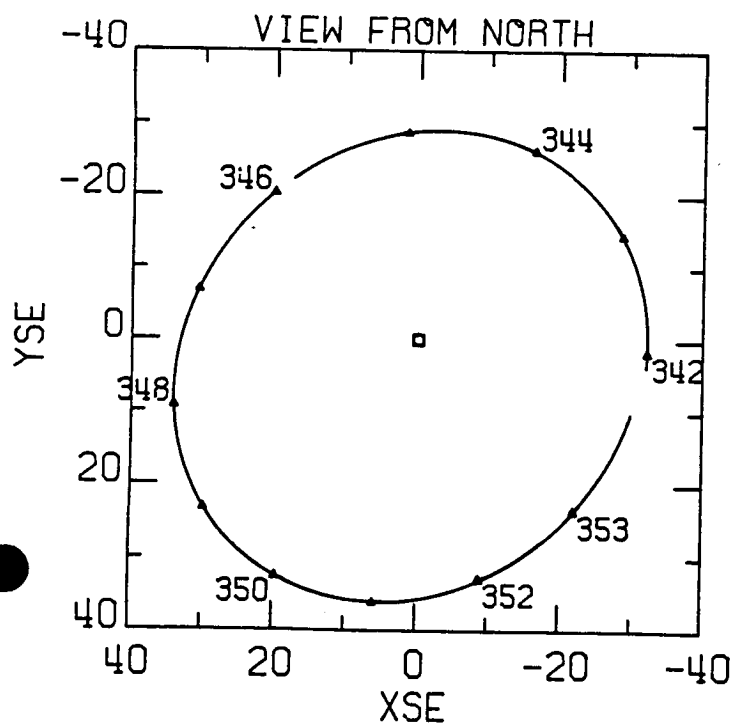
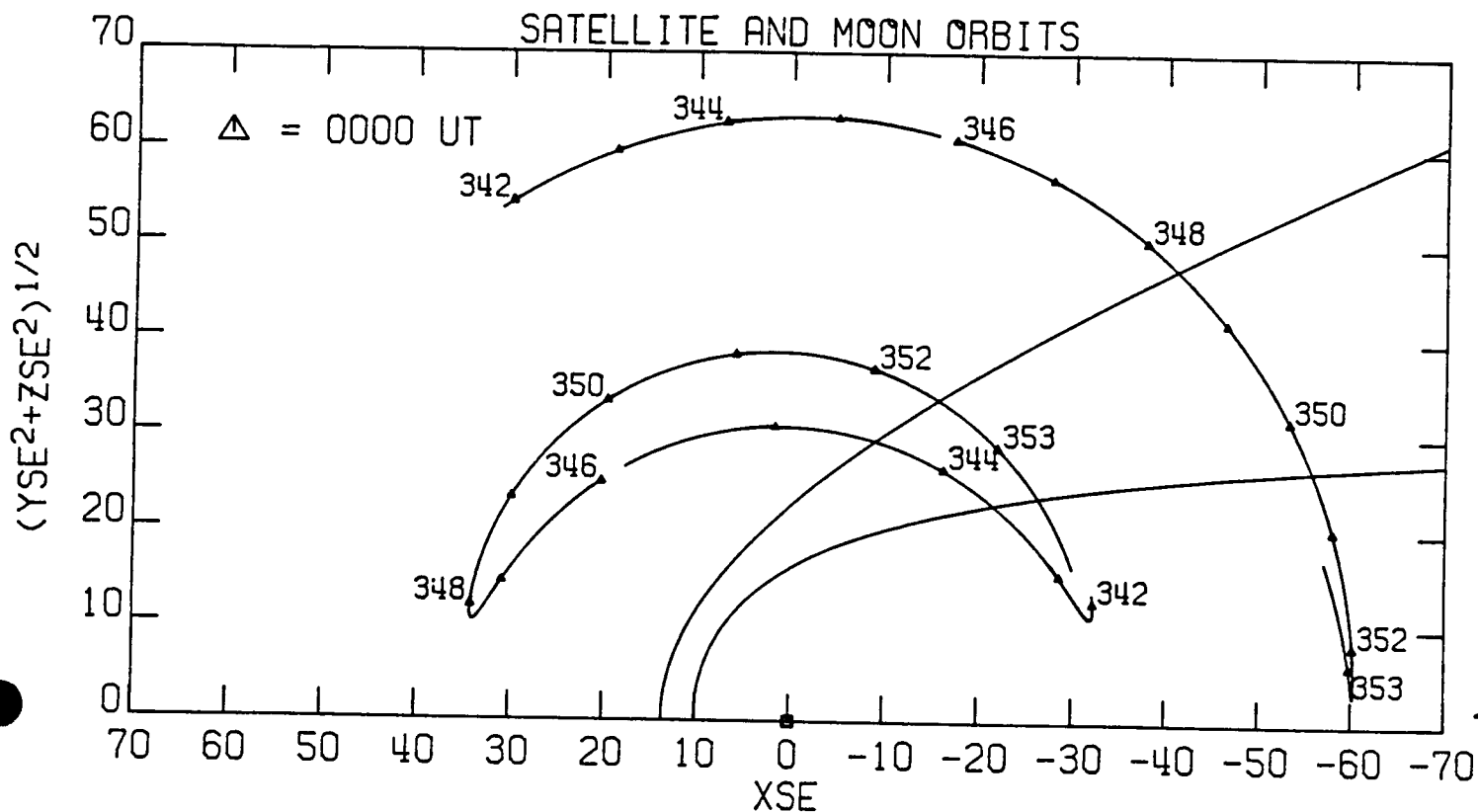
IMP 7 FROM DEC 7 TO DEC 19 1975



IMP 7 TRAJECTORY... ASCENDING NODE 97

FROM DEC 7 TO DEC 19 1975

DAYS 341 THRU 353



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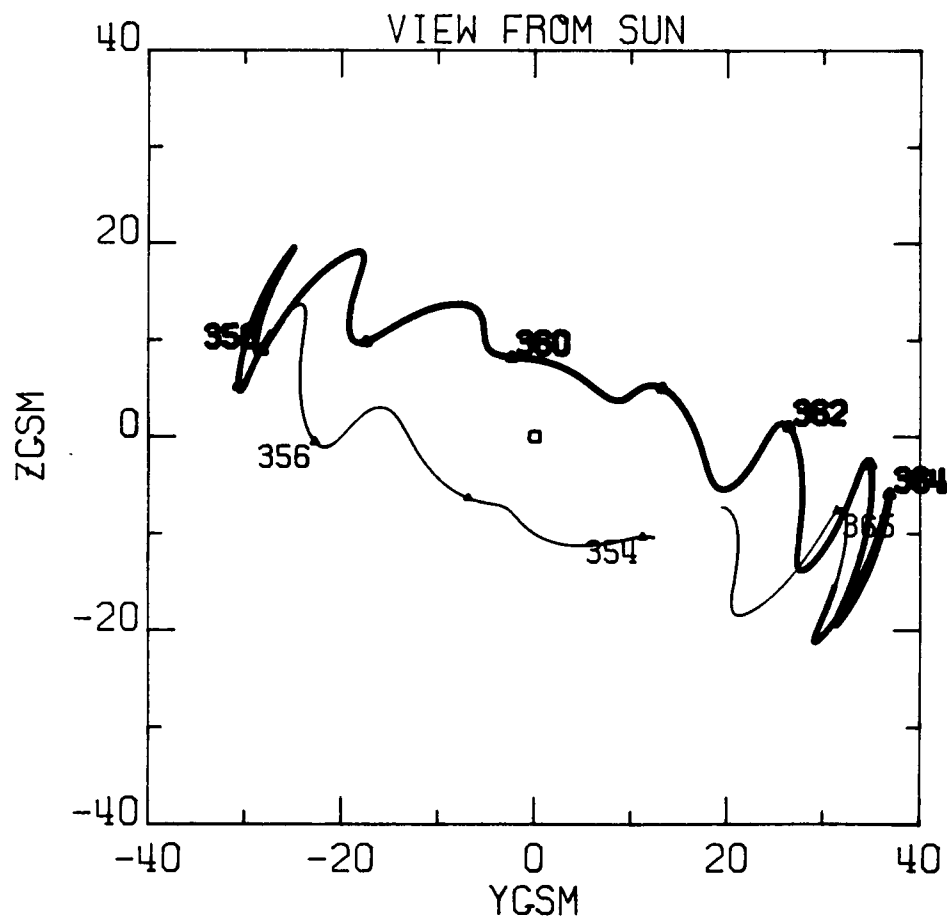
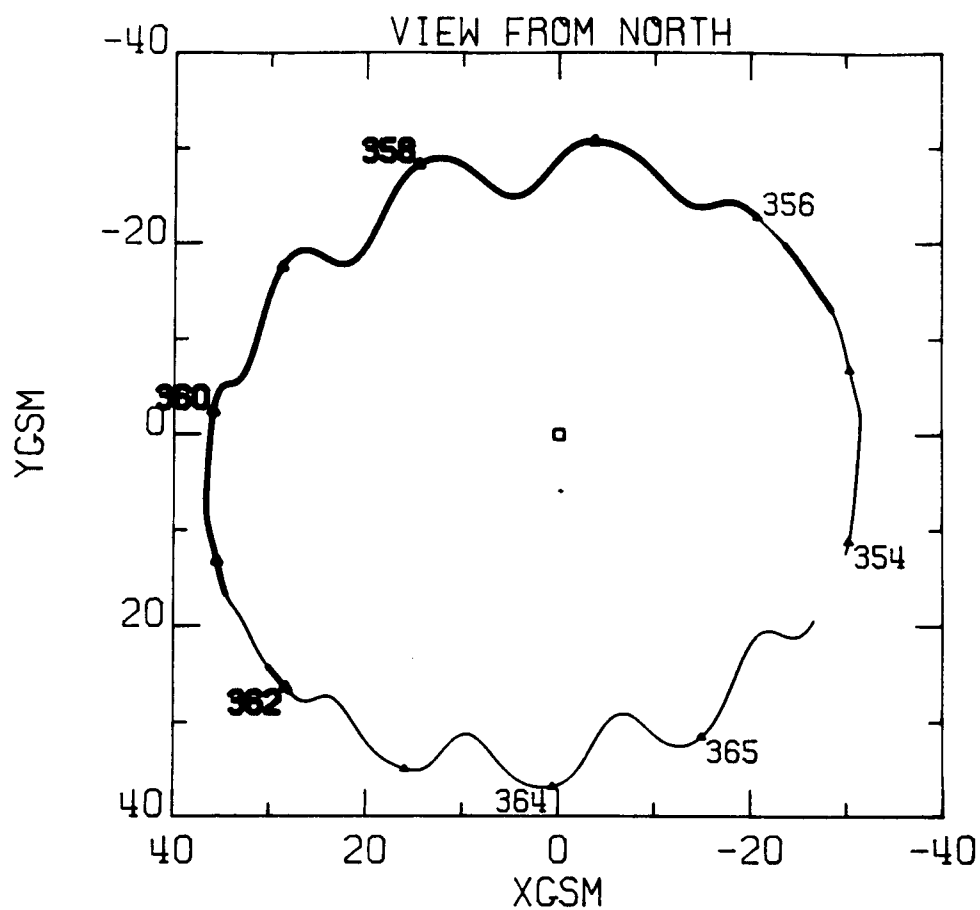
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IMP 7 FROM DEC 19 TO DEC 31 1975

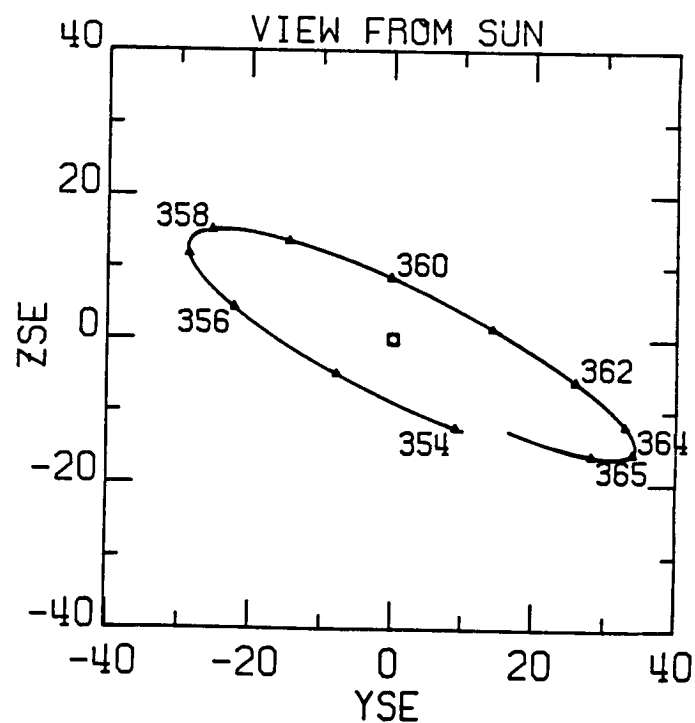
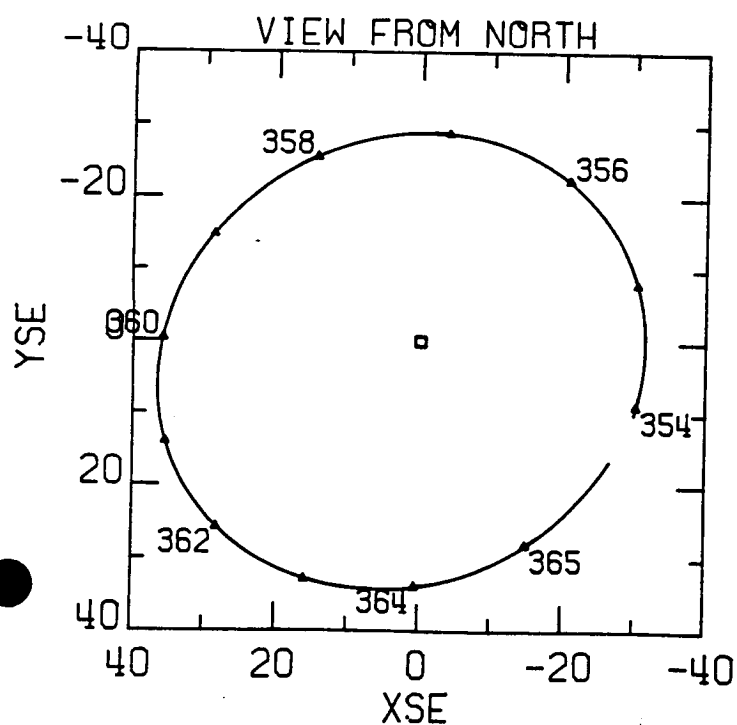
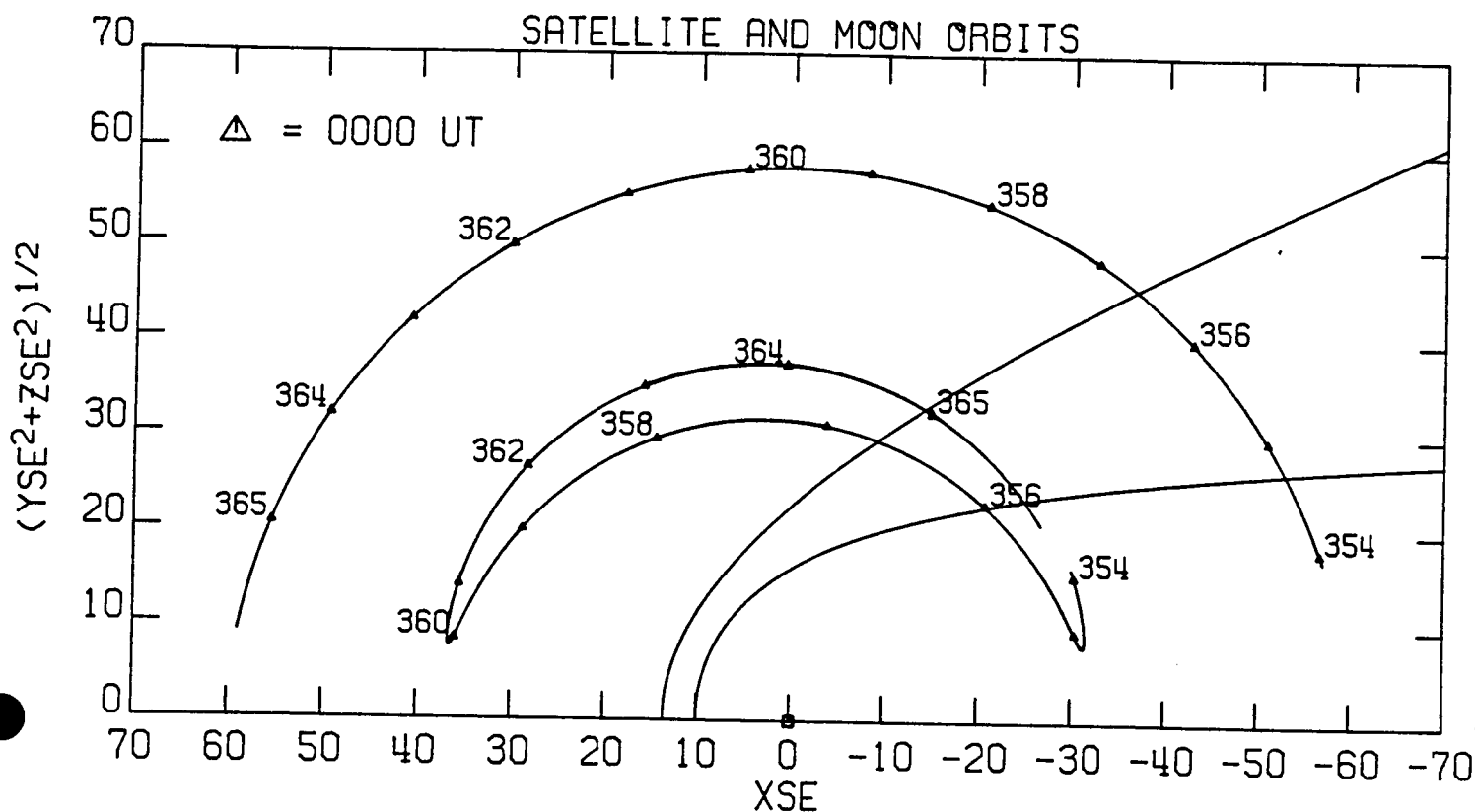


IMP 7 TRAJECTORY.

ASCENDING NODE 98

FROM DEC 19 TO DEC 31 1975

DAYS 353 THRU 365



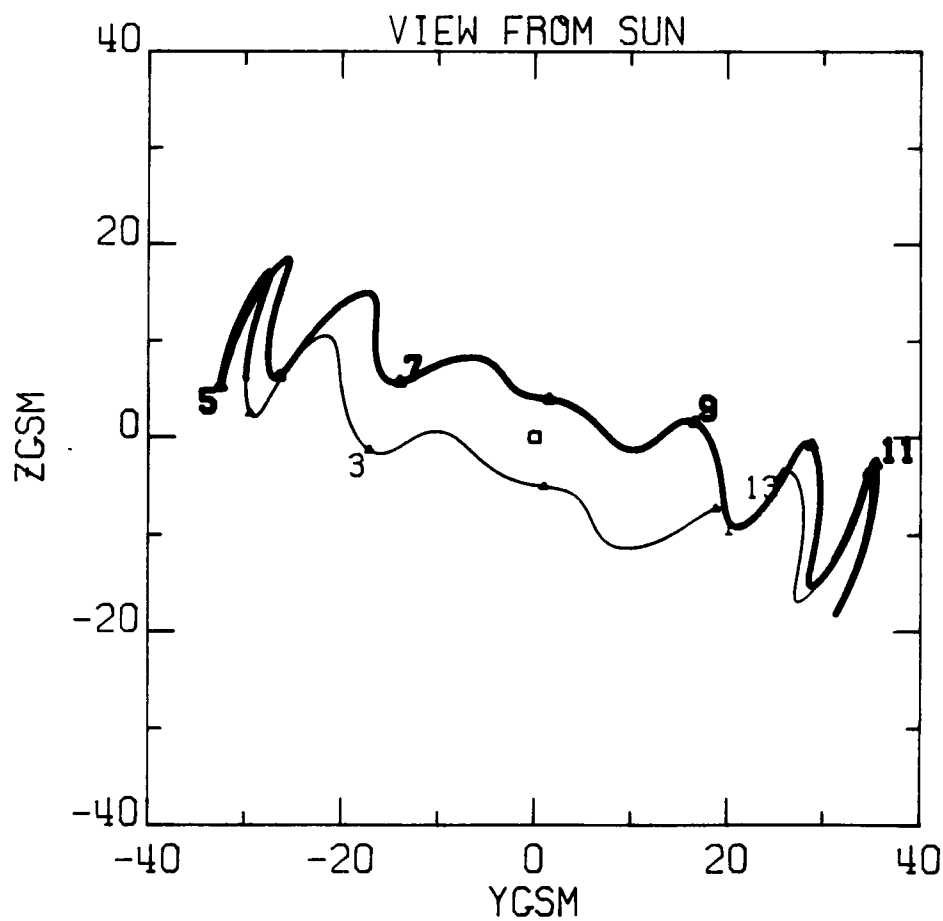
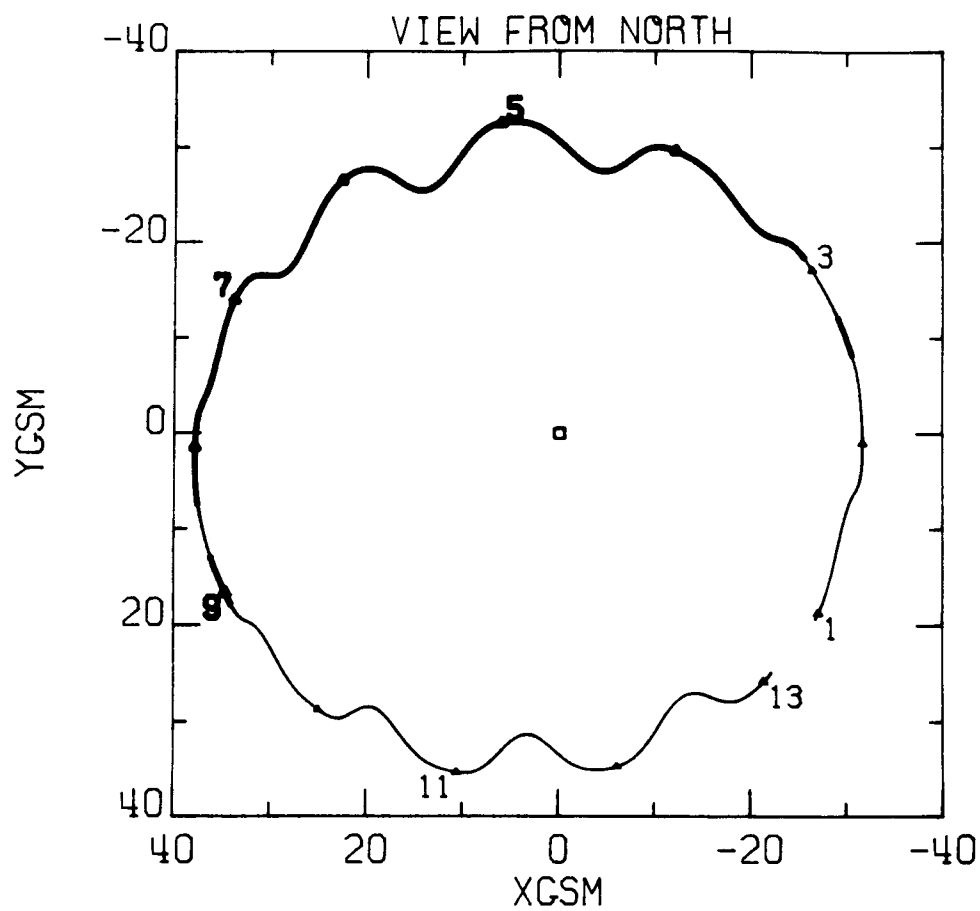
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Space Research

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IMP 7 FROM DEC 31 TO JAN 13 1976

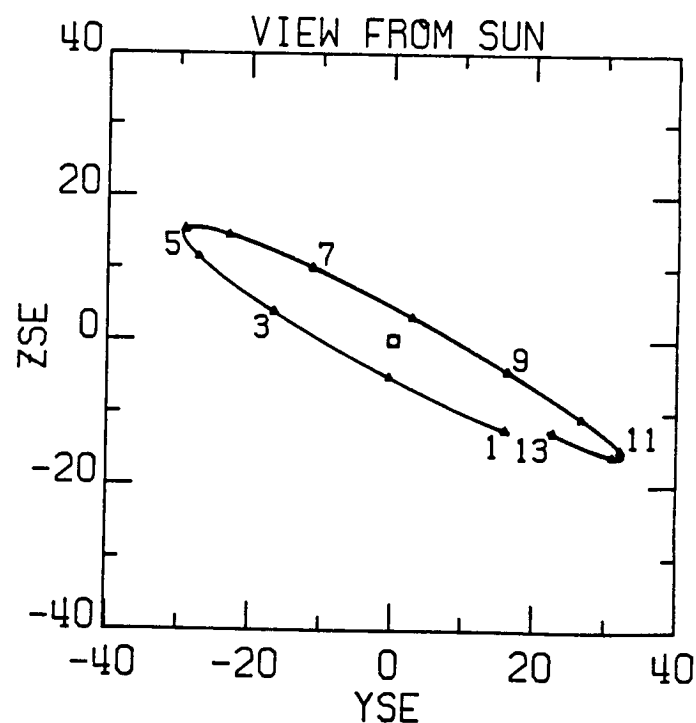
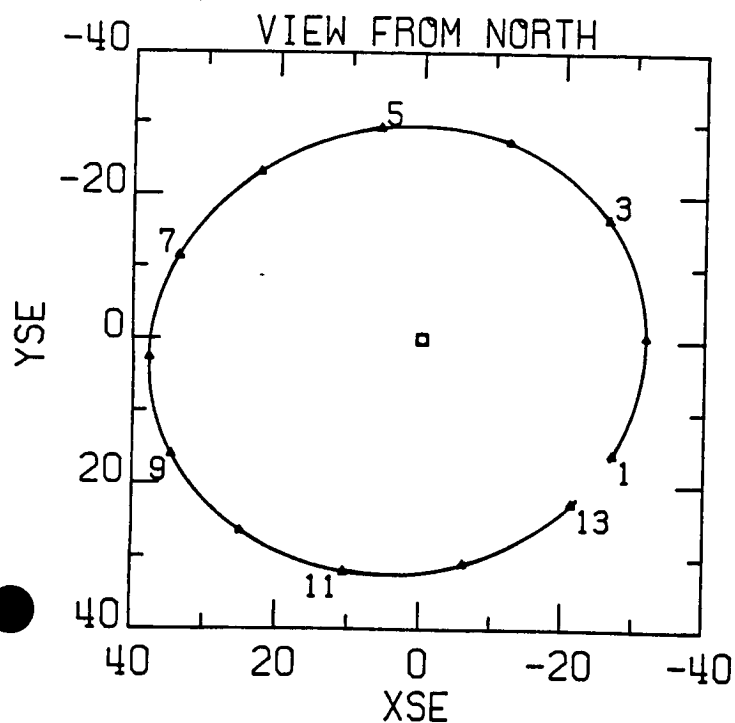
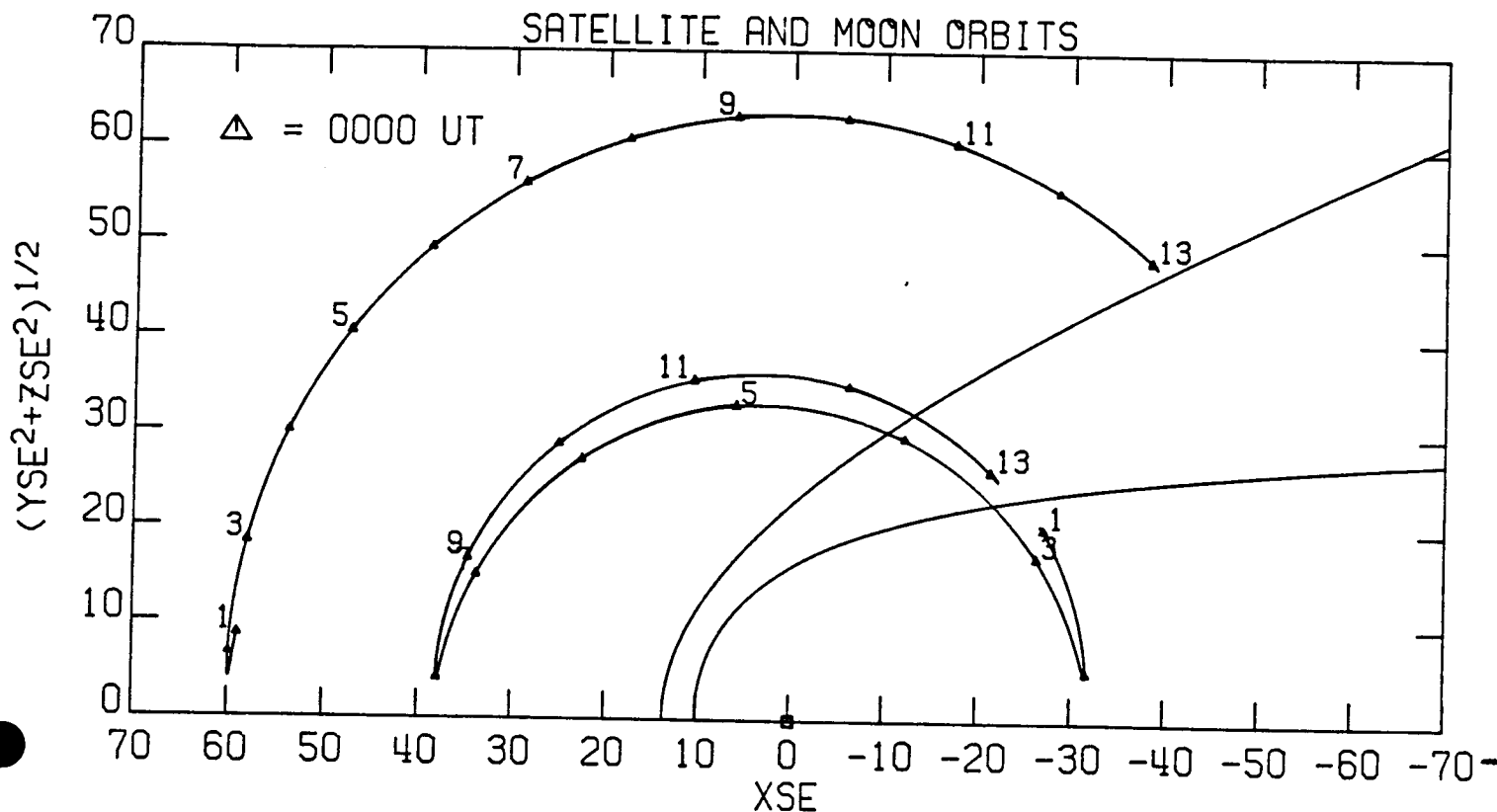


IMP 7 TRAJECTORY.

ASCENDING NODE 99

FROM DEC 31 TO JAN 13 1976

DAYS 365 THRU 13

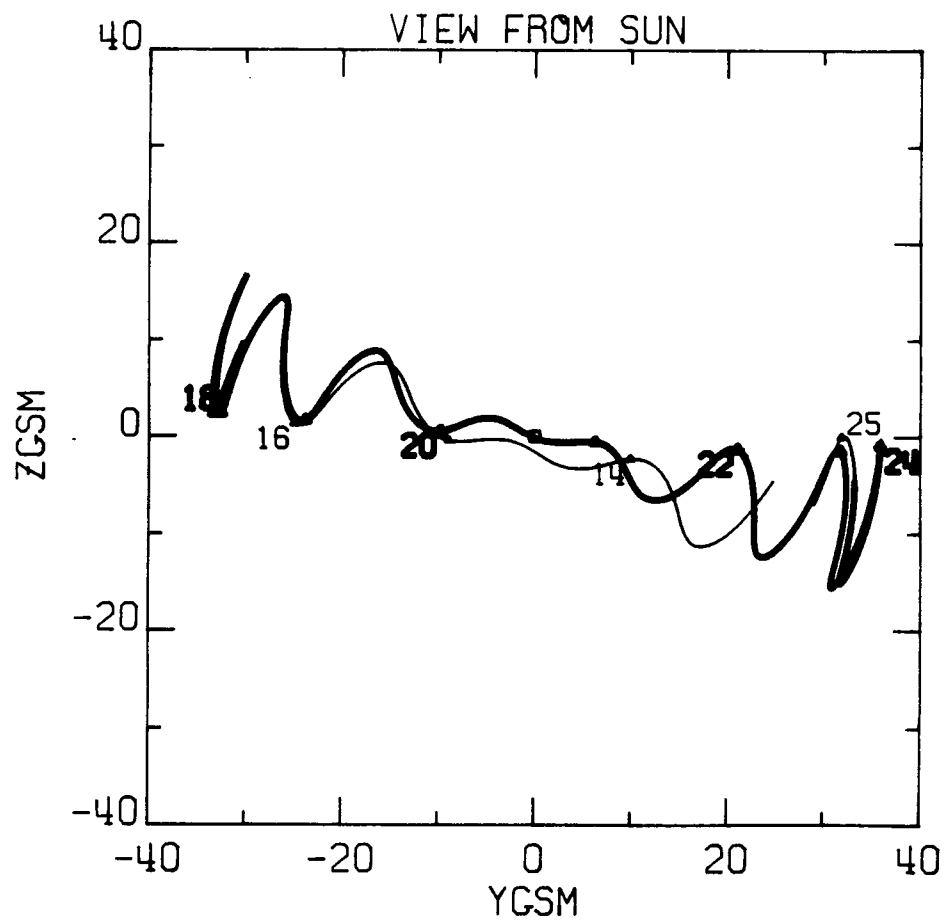
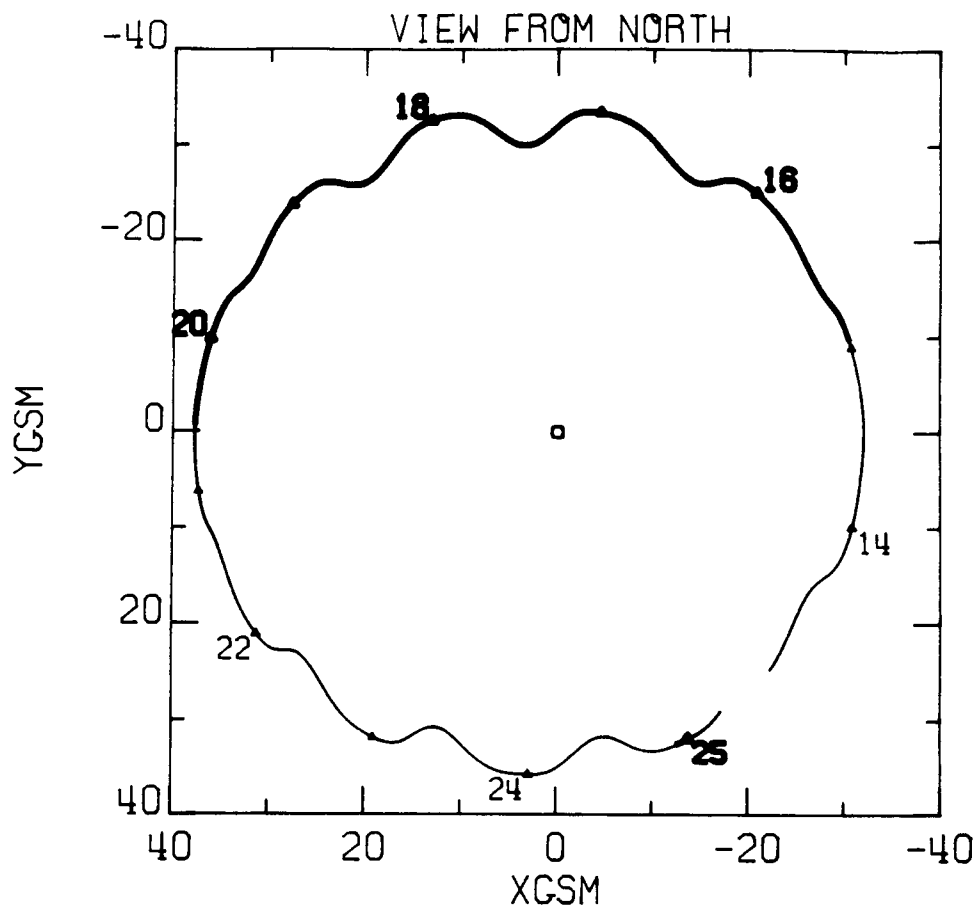


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M.I.T. Center for Space Research

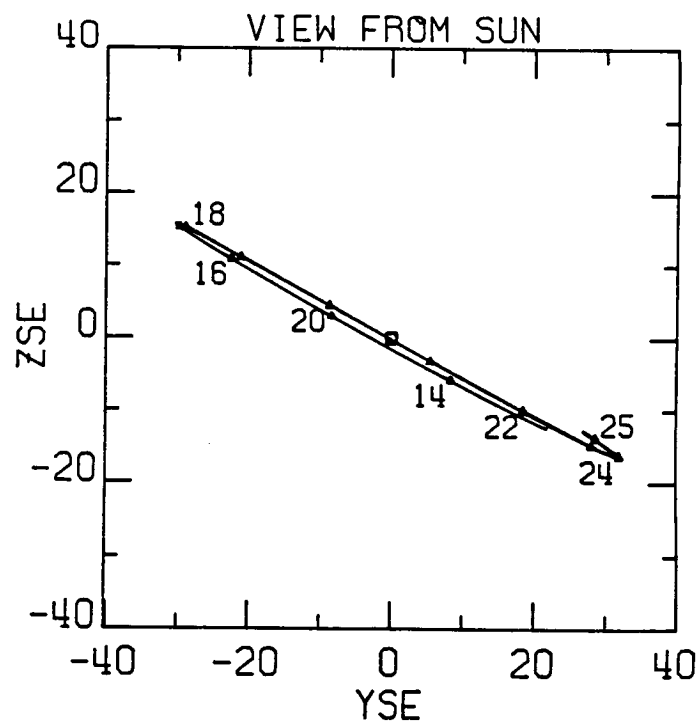
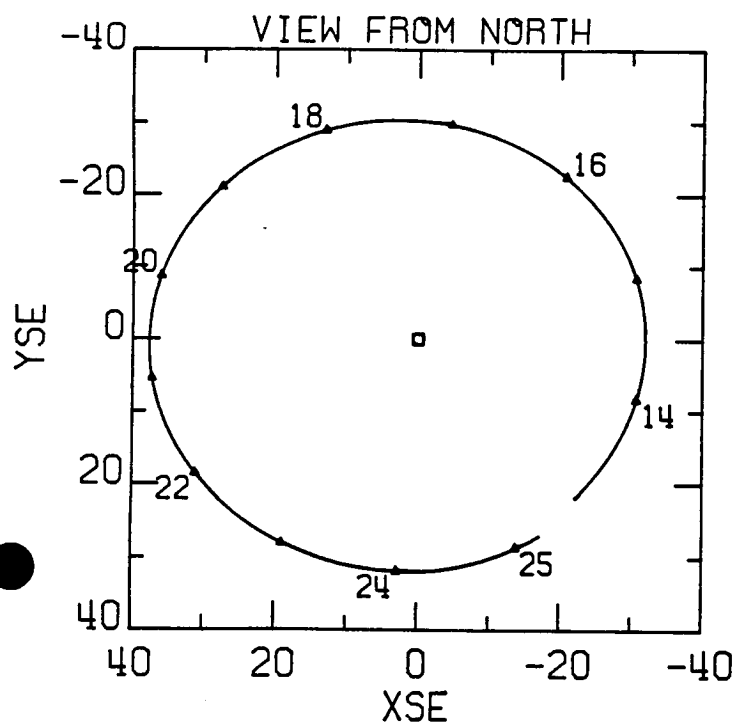
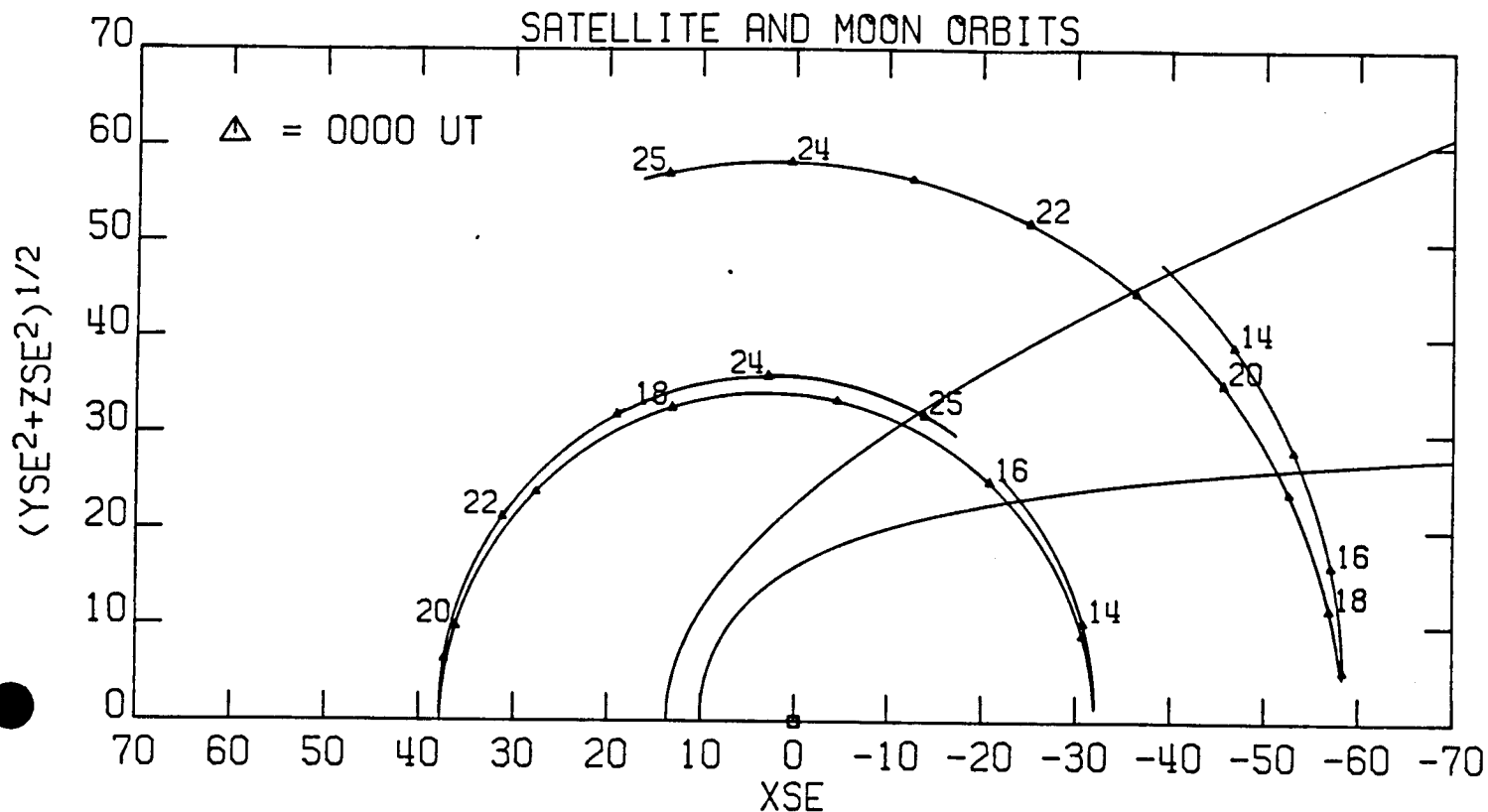
IMP 7 FROM JAN 13 TO JAN 25 1976



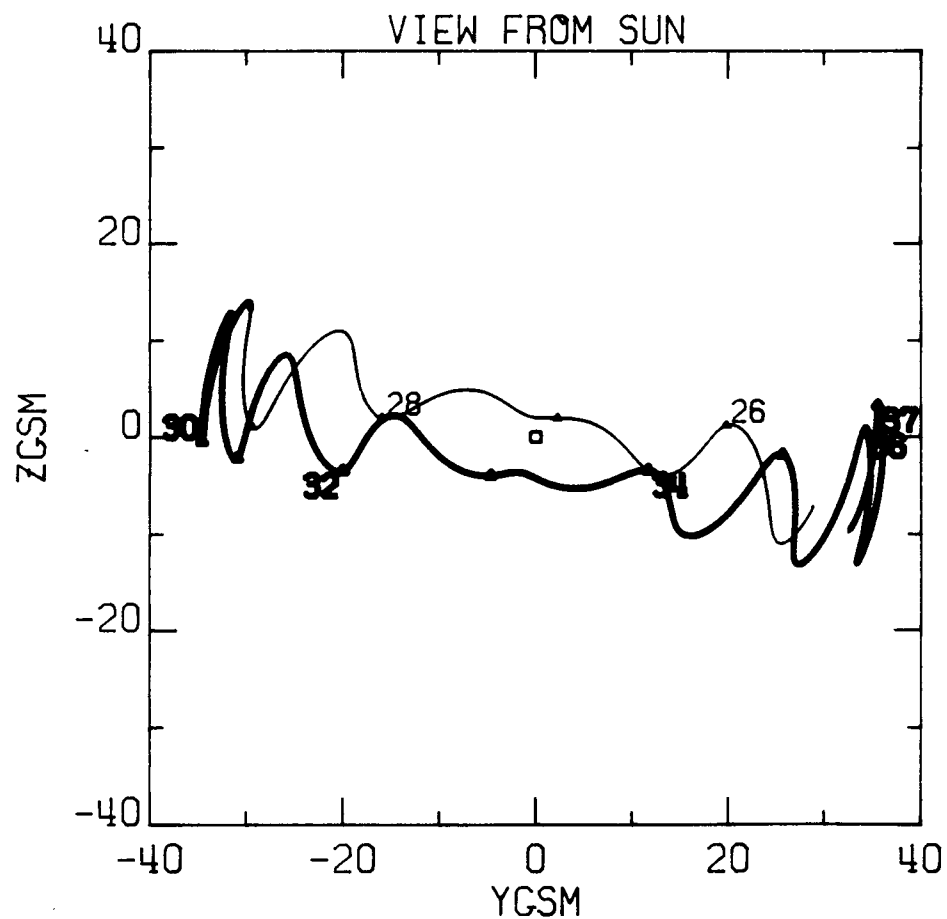
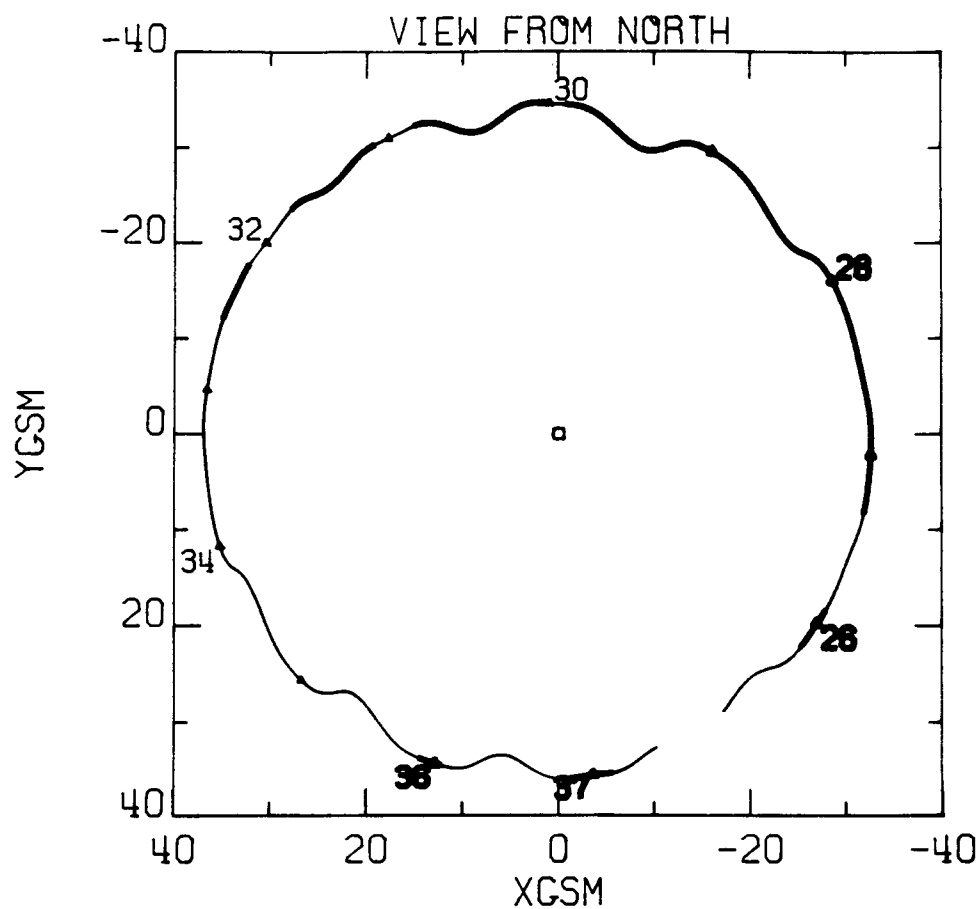
IMP 7 TRAJECTORY. ASCENDING NODE 100

FROM JAN 13 TO JAN 25 1976

DAYS 13 THRU 25



IMP 7 FROM JAN 25 TO FEB 6 1976

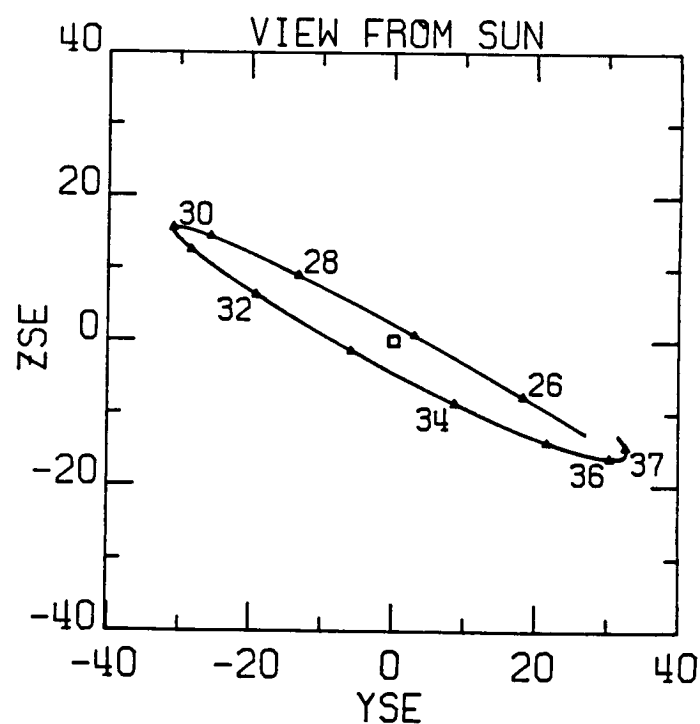
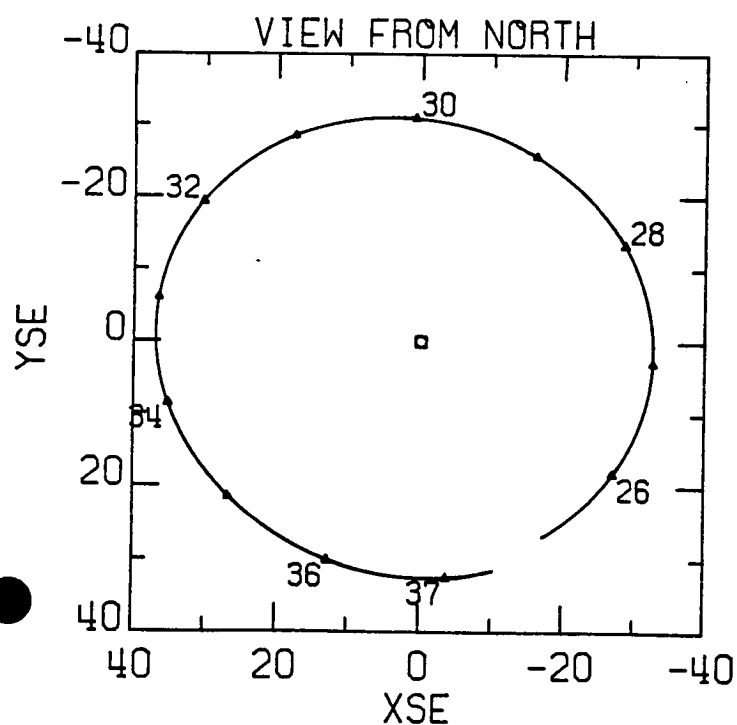
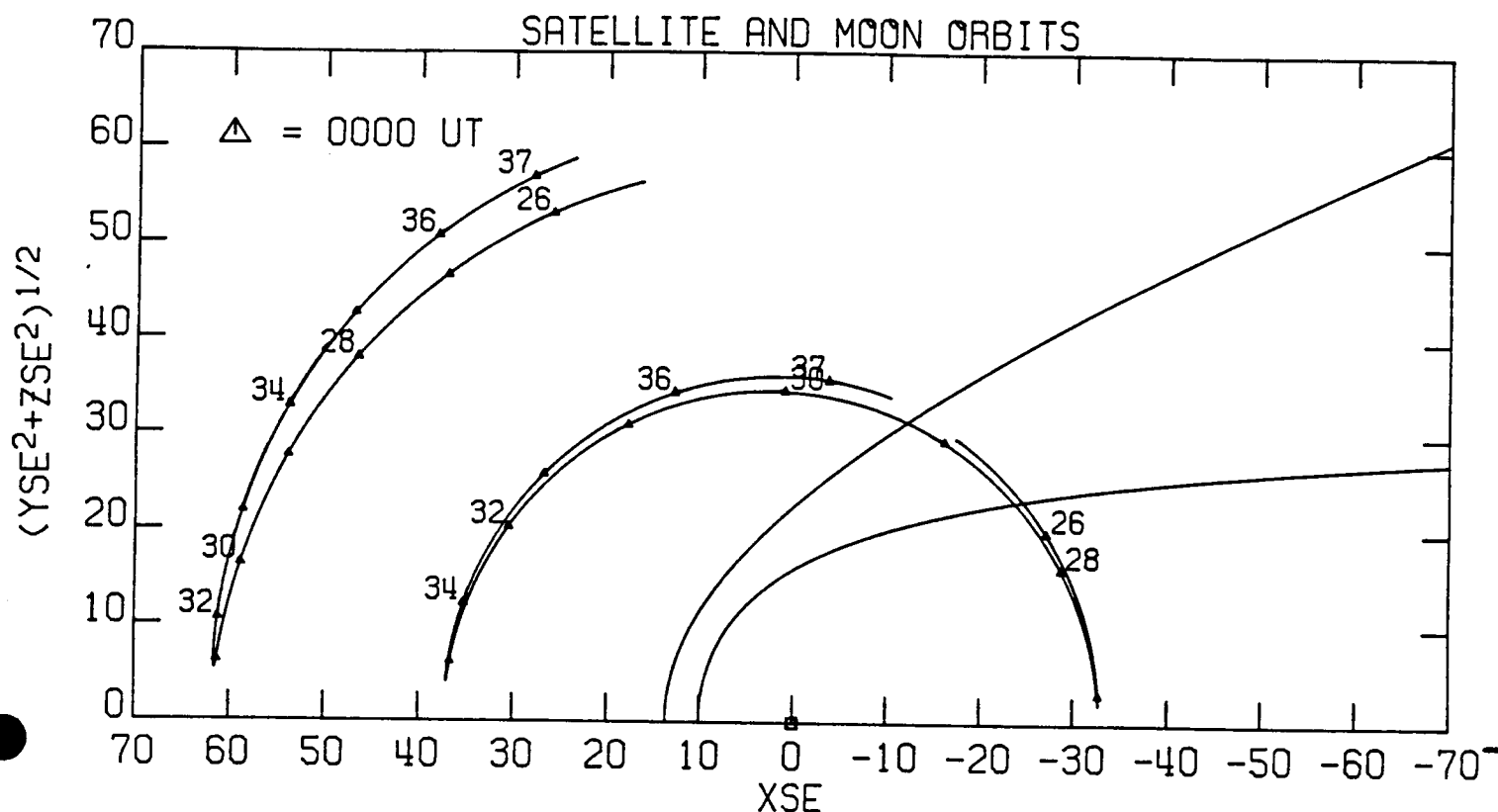


IMP 7 TRAJECTORY.

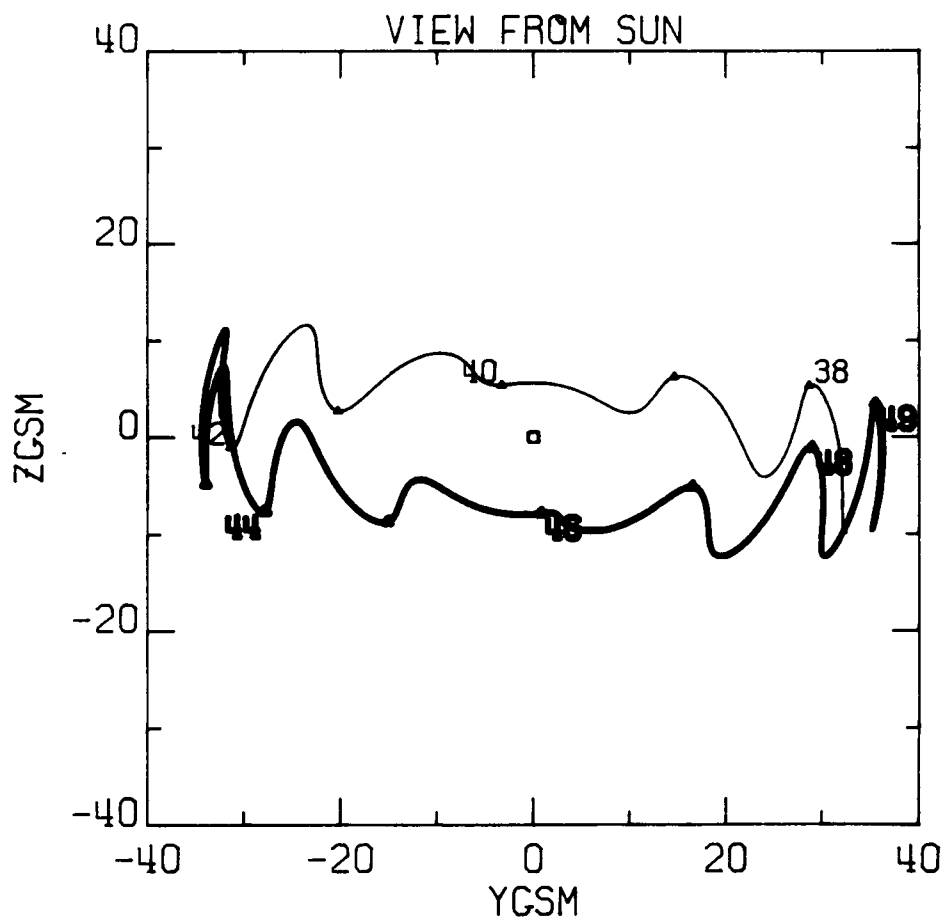
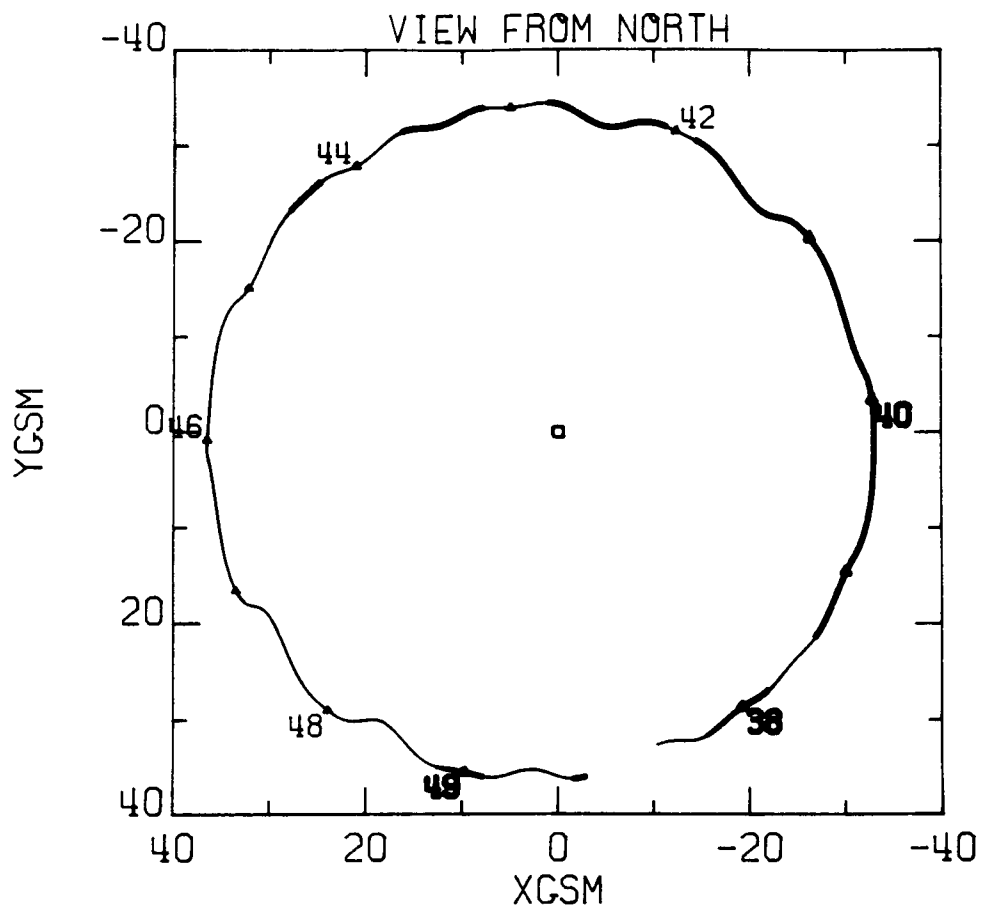
ASCENDING NODE 101

FROM JAN 25 TO FEB 6 1976

DAYS 25 THRU 37



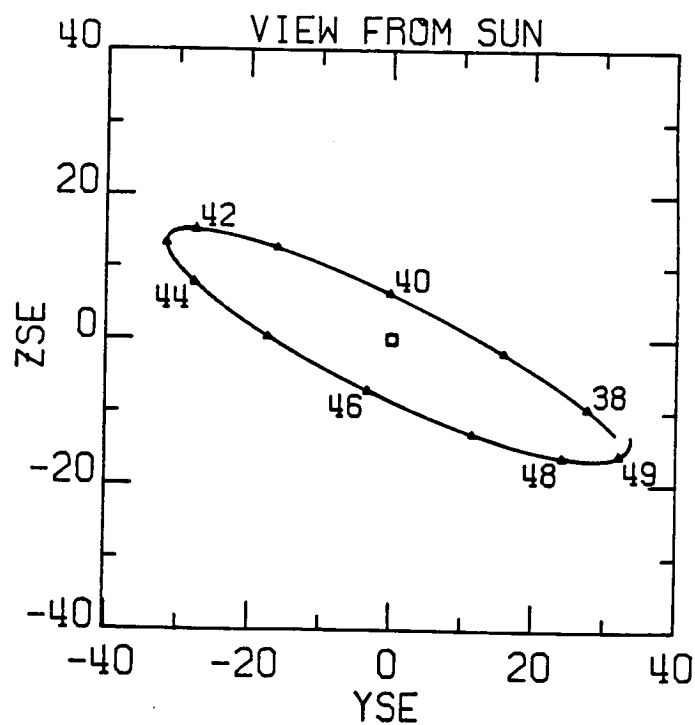
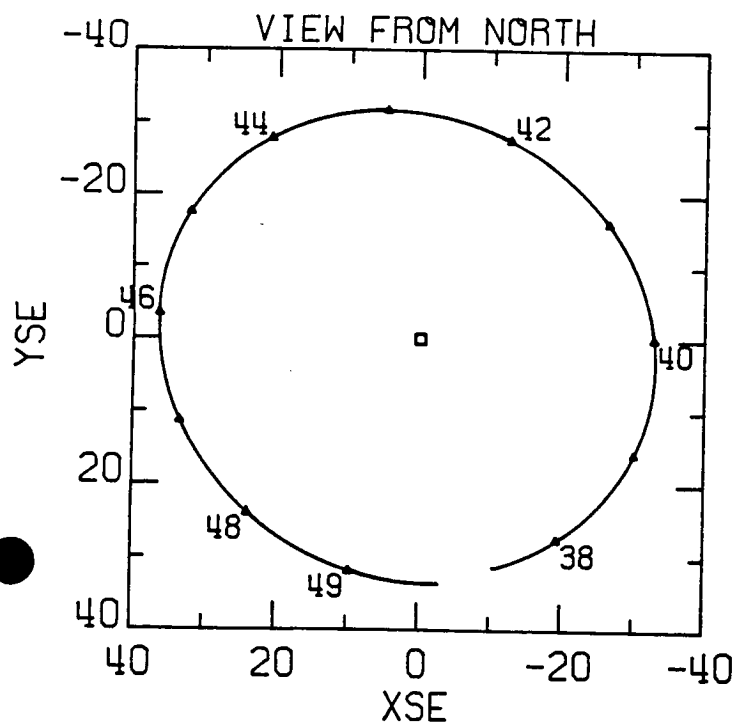
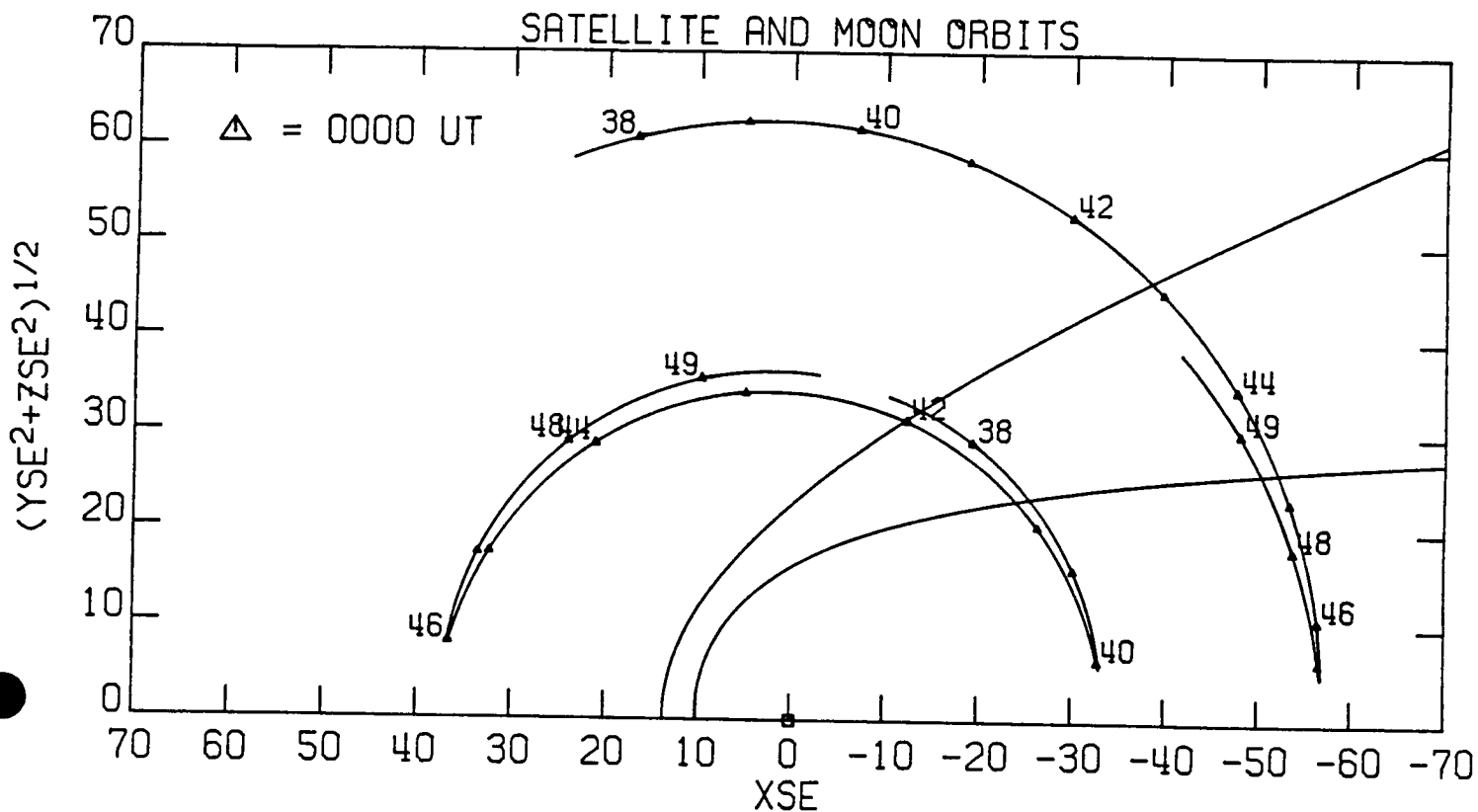
IMP 7 FROM FEB 6 TO FEB 18 1976



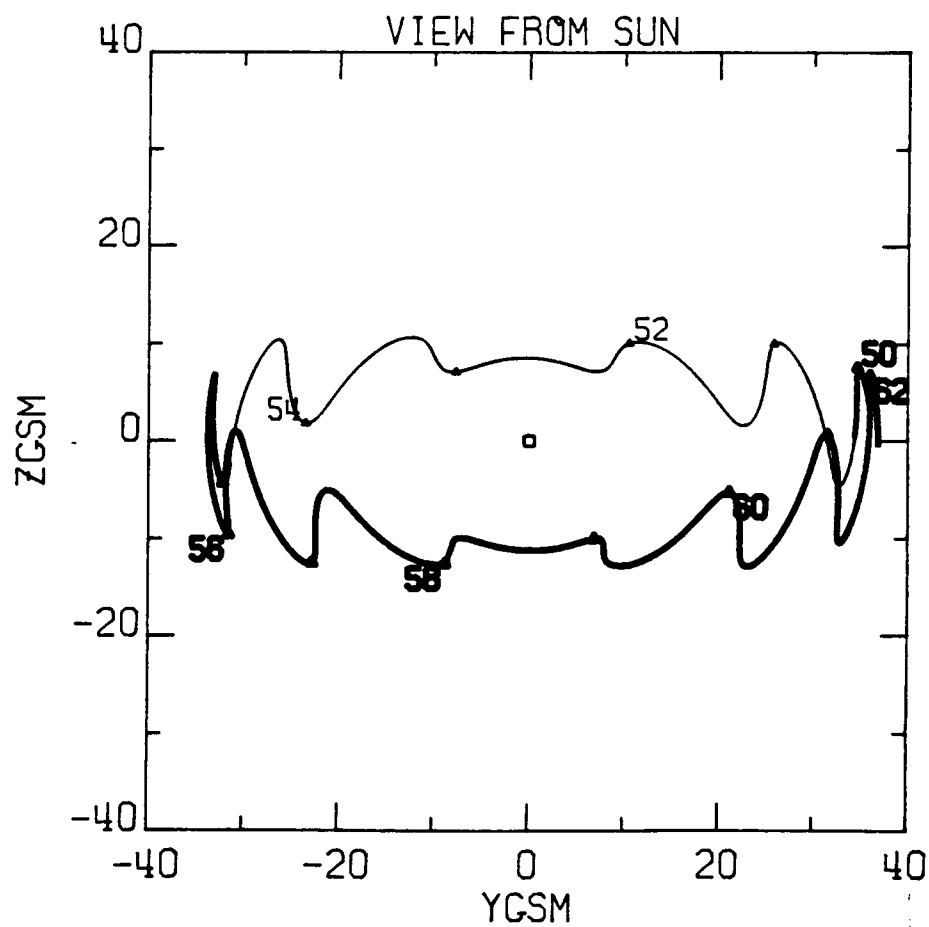
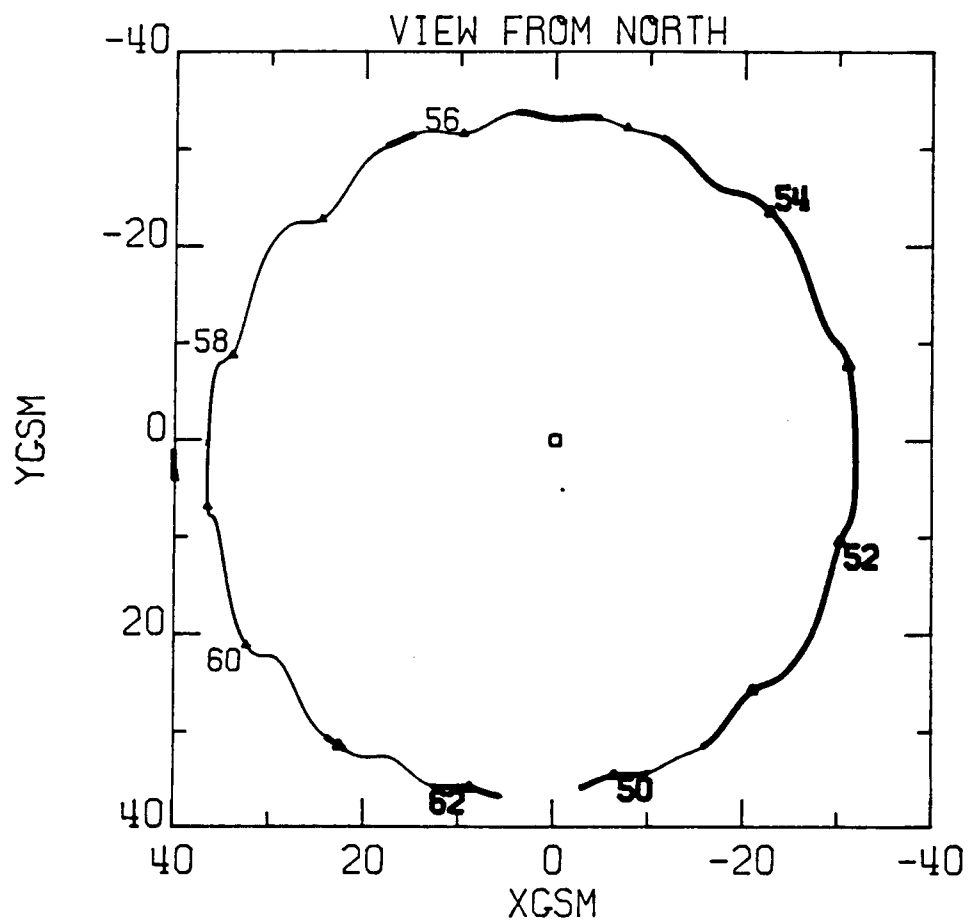
IMP 7 TRAJECTORY. ASCENDING NODE 102

FROM FEB 6 TO FEB 18 1976

DAYS 37 THRU 49



IMP 7 FROM FEB 18 TO MAR 2 1976

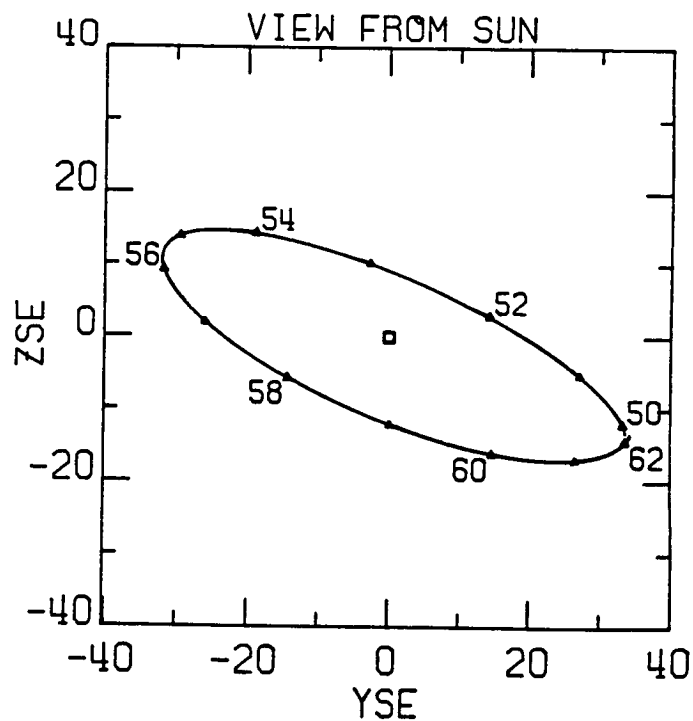
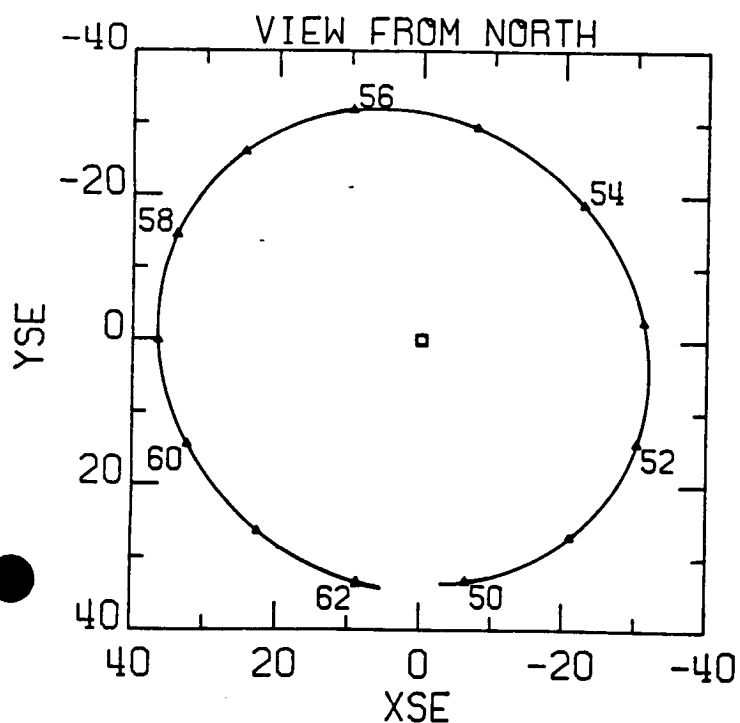
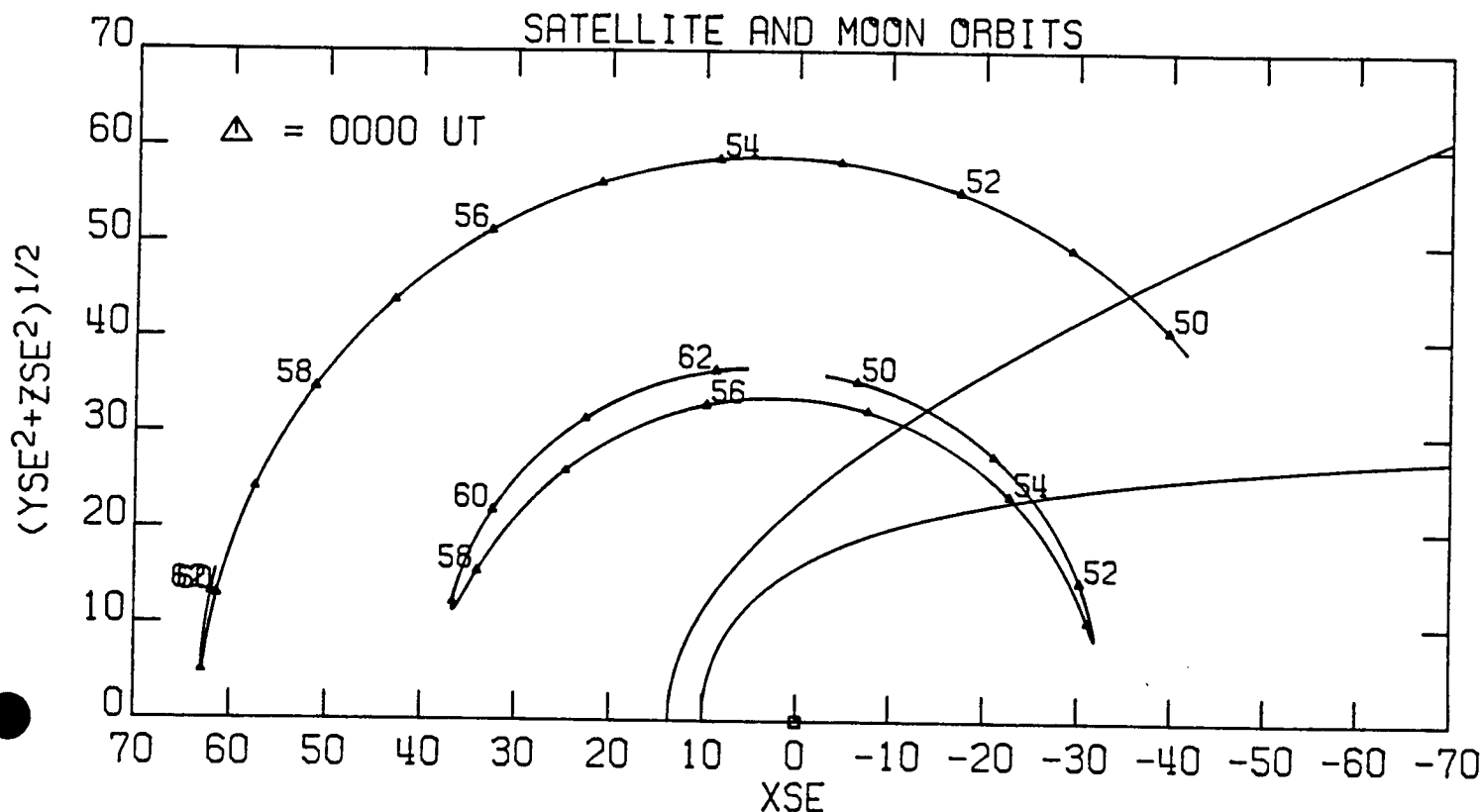


IMP 7 TRAJECTORY.

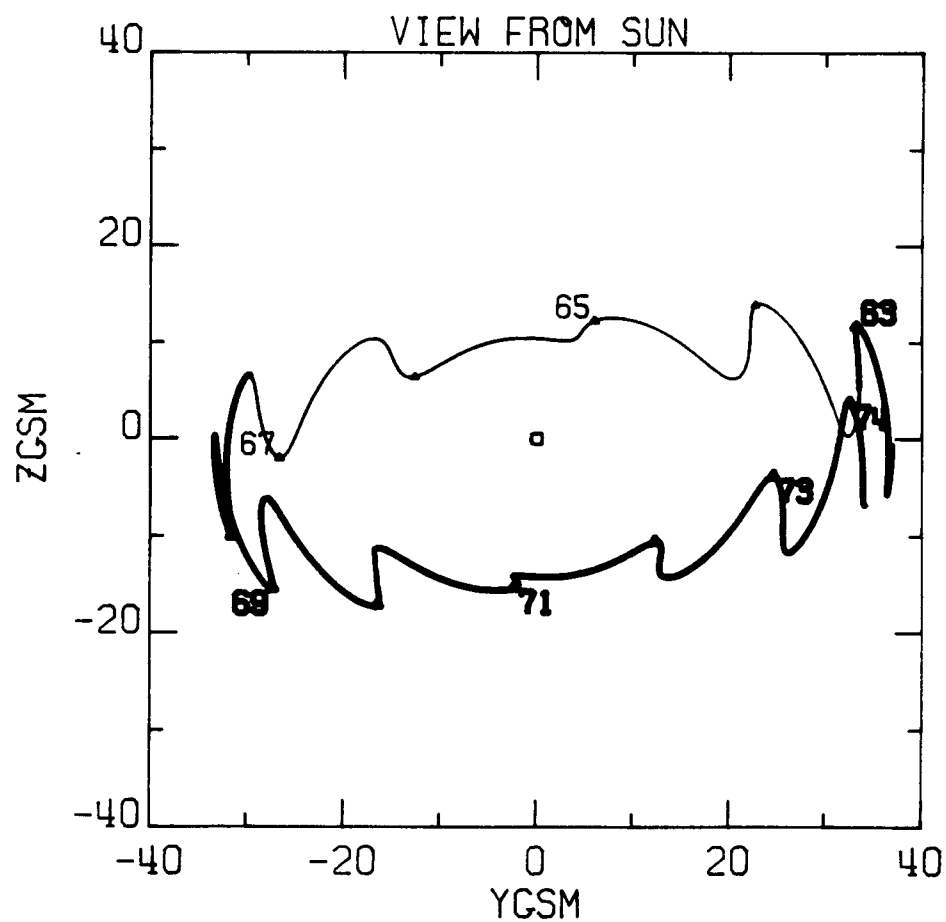
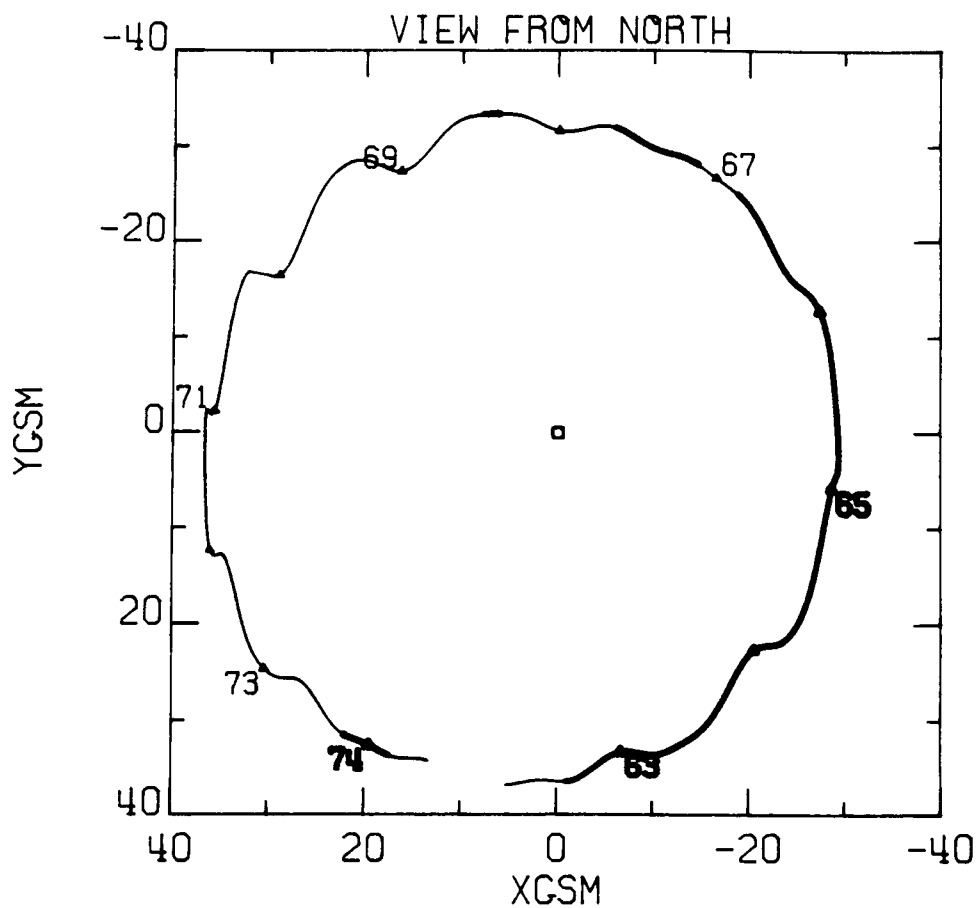
ASCENDING NODE 103

FROM FEB 18 TO MAR 2 1976

DAYS 49 THRU 62



IMP 7 FROM MAR 2 TO MAR 14 1976



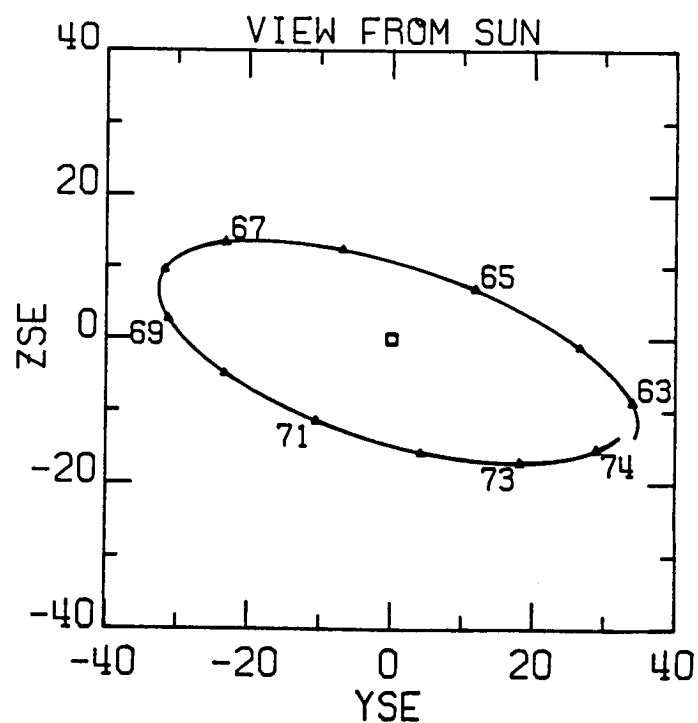
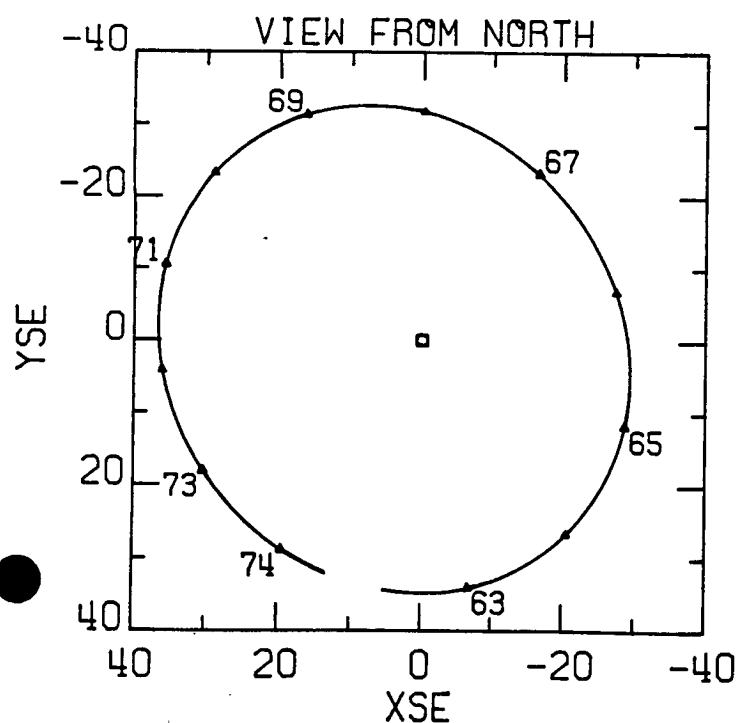
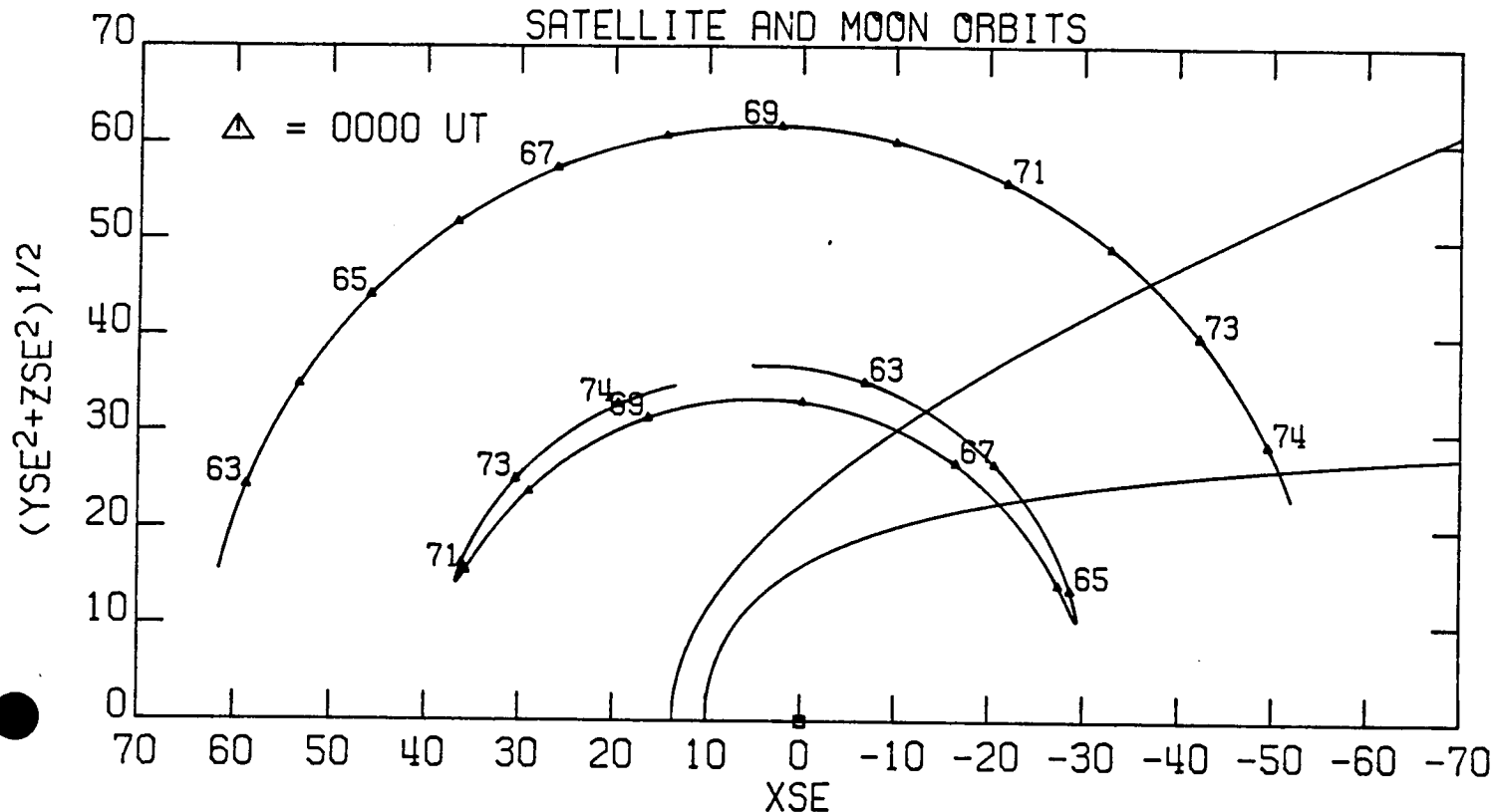
IMP 7 TRAJECTORY.

ASCENDING NODE 104

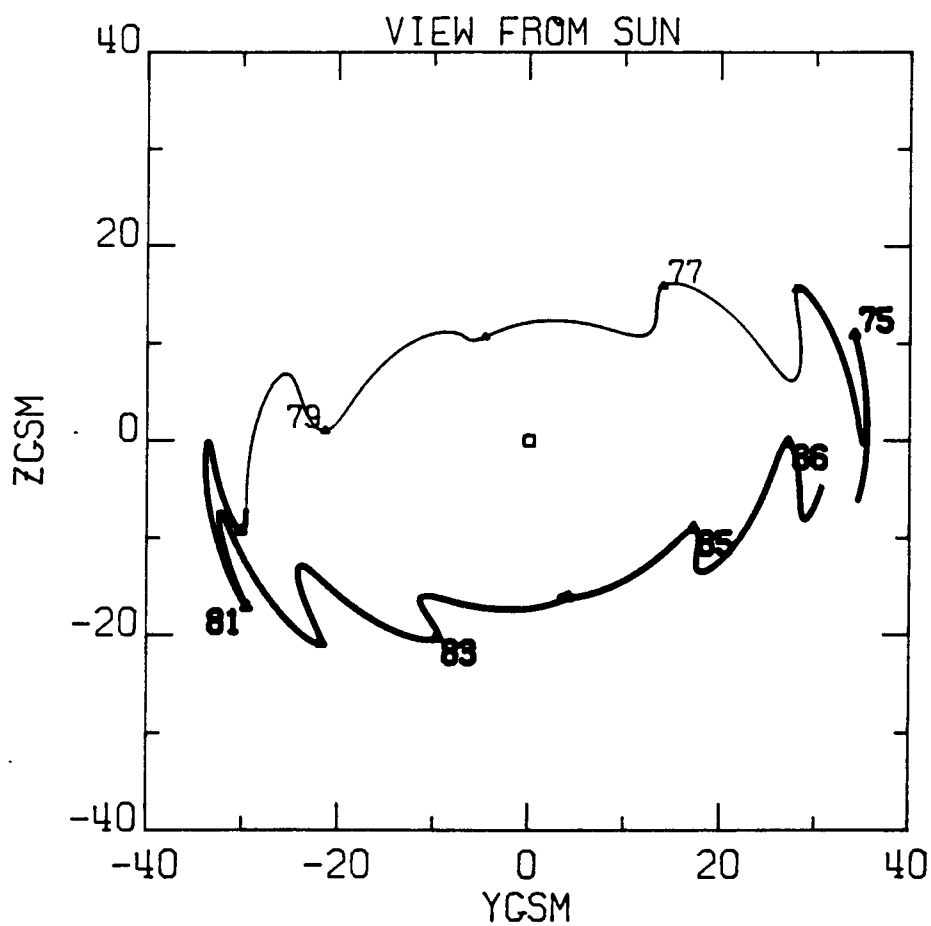
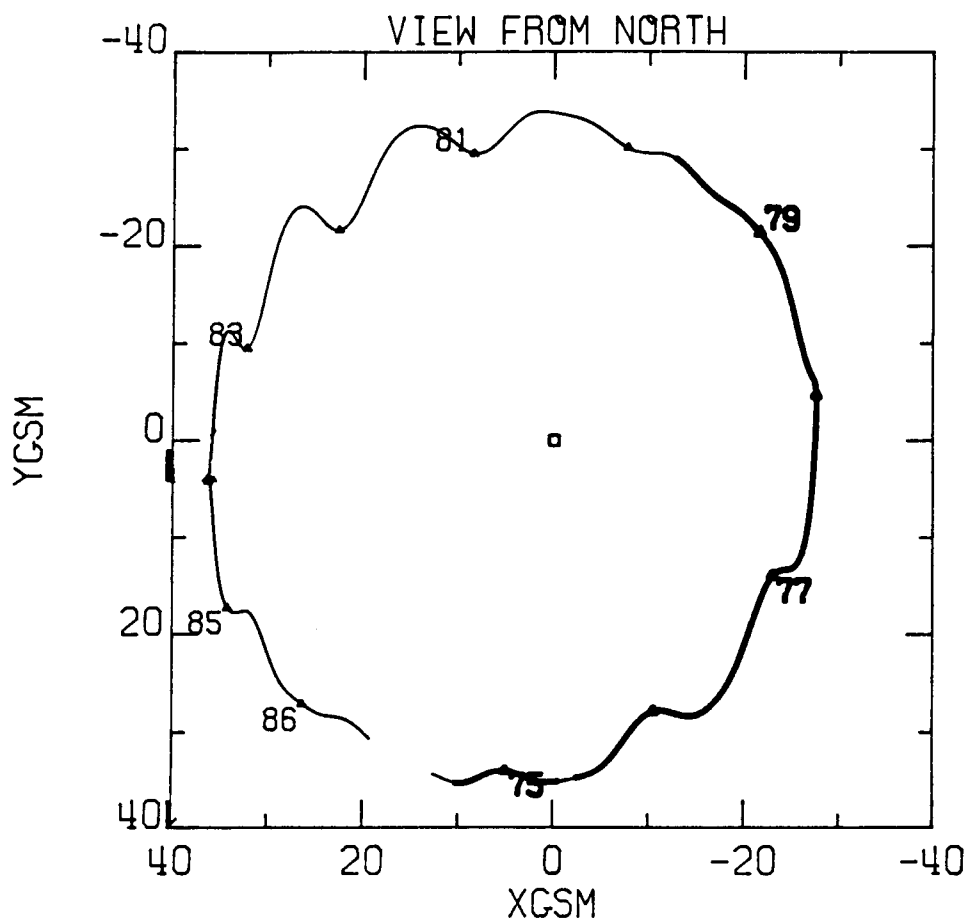
FROM MAR 2 TO MAR 14 1976

DAYS 62 THRU 74

SATELLITE AND MOON ORBITS



IMP 7 FROM MAR 14 TO MAR 26 1976

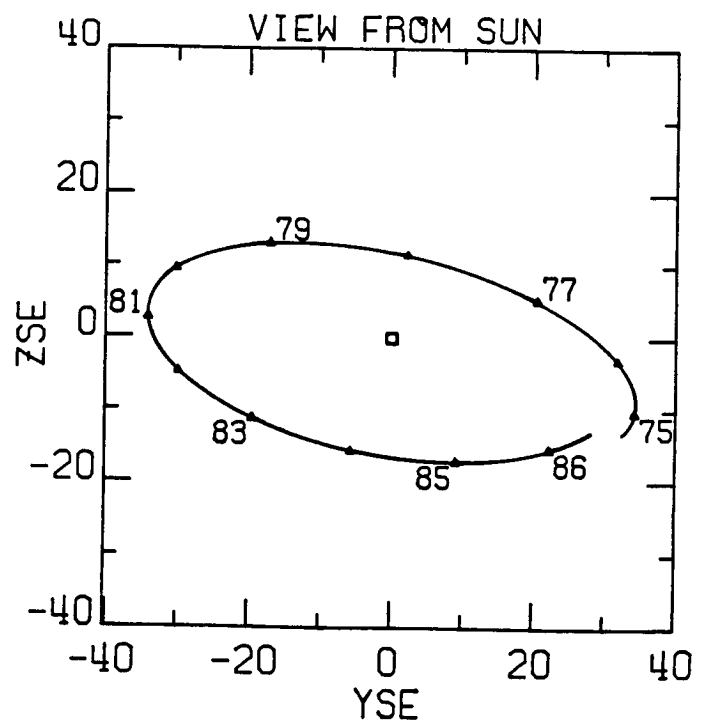
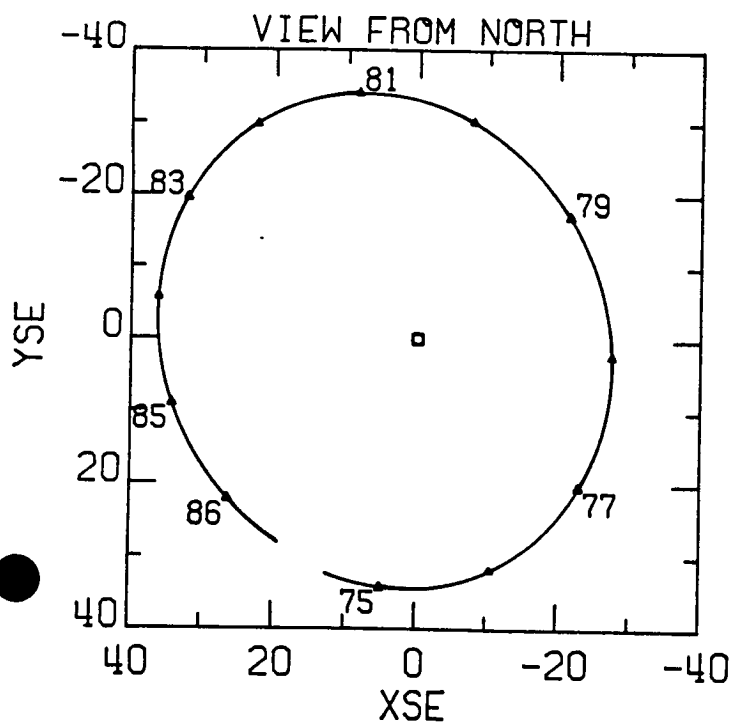
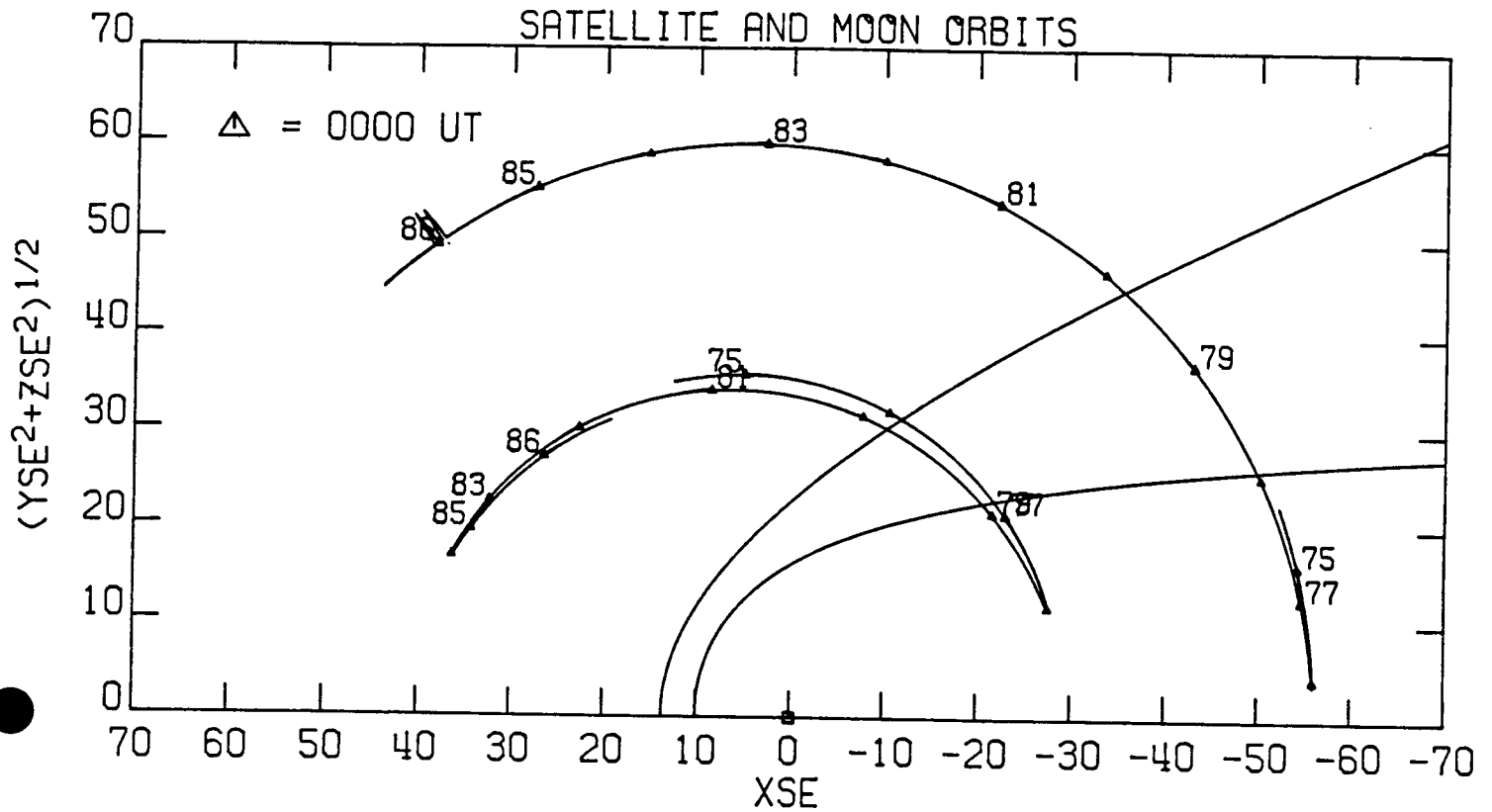


IMP 7 TRAJECTORY.

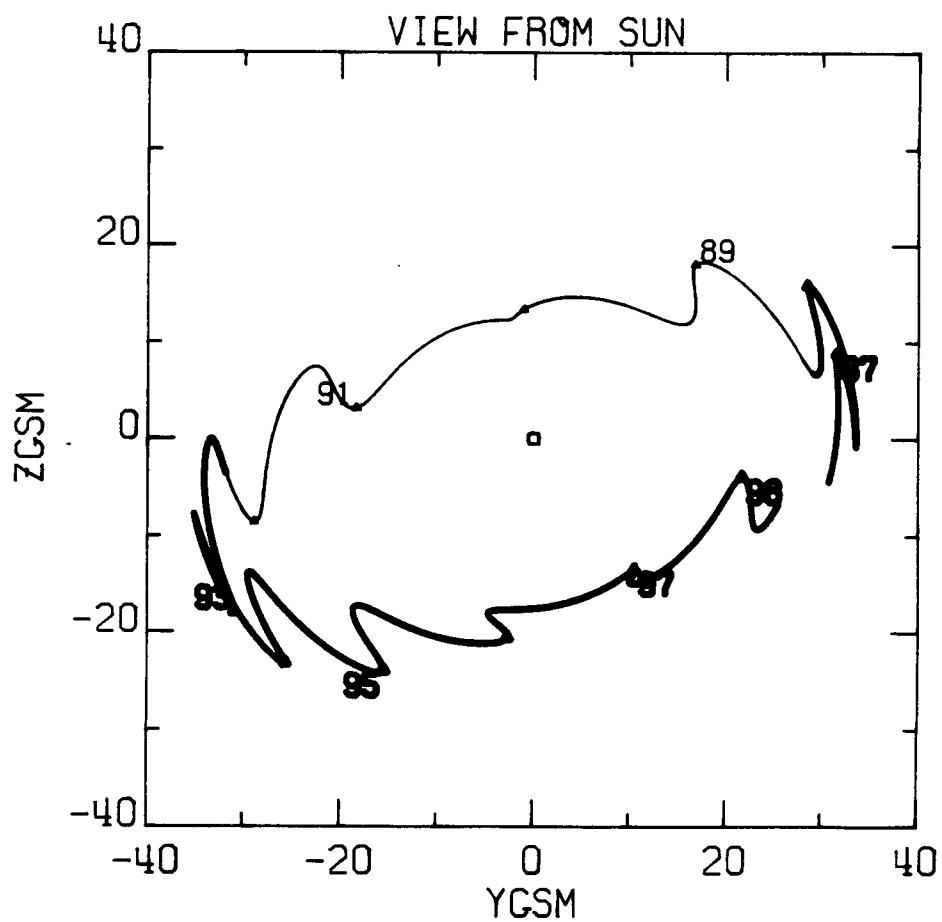
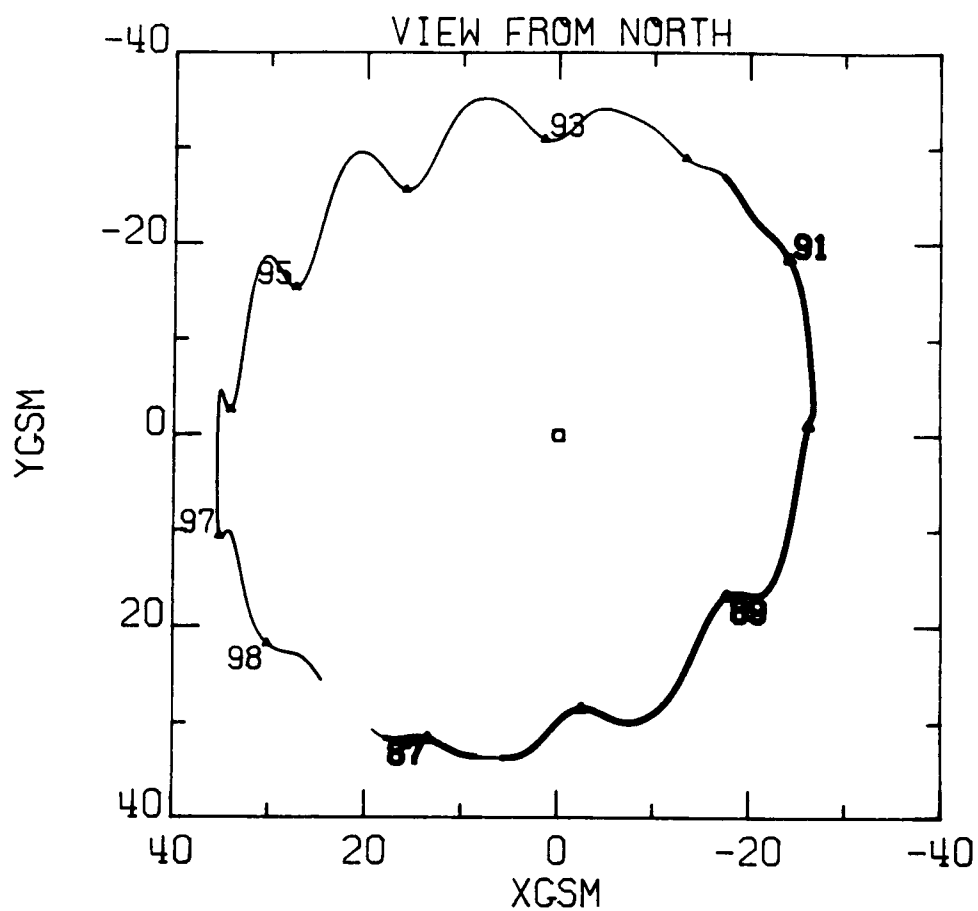
ASCENDING NODE 105

FROM MAR 14 TO MAR 26 1976

DAYS 74 THRU 86



IMP 7 FROM MAR 26 TO APR 7 1976

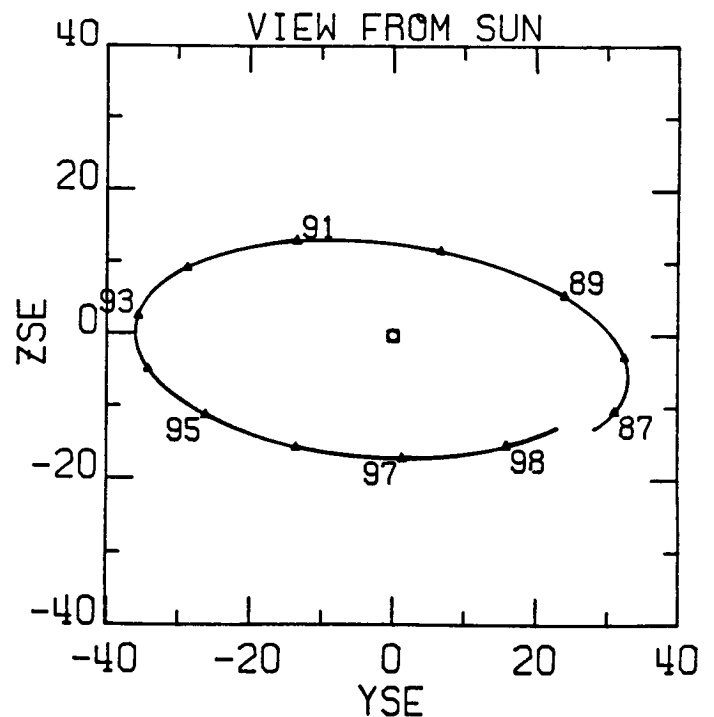
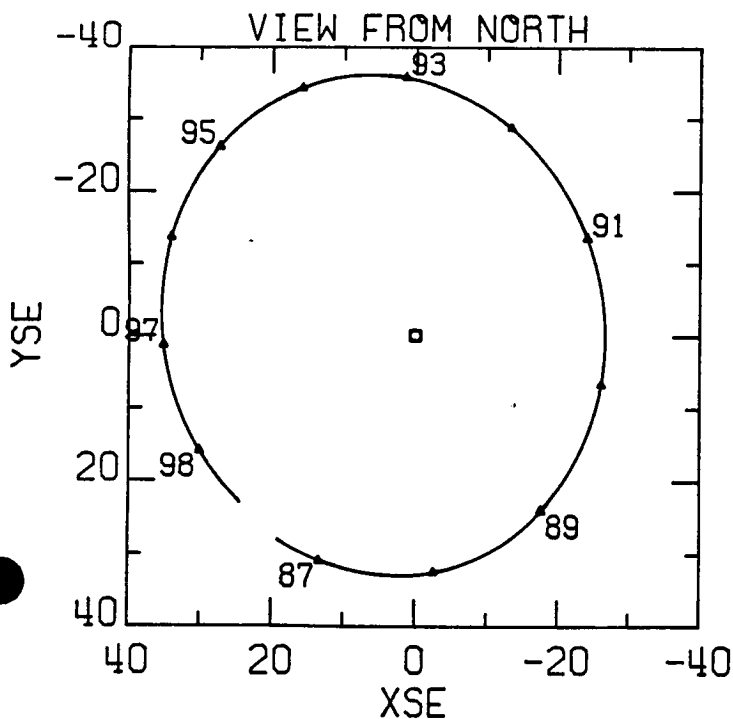
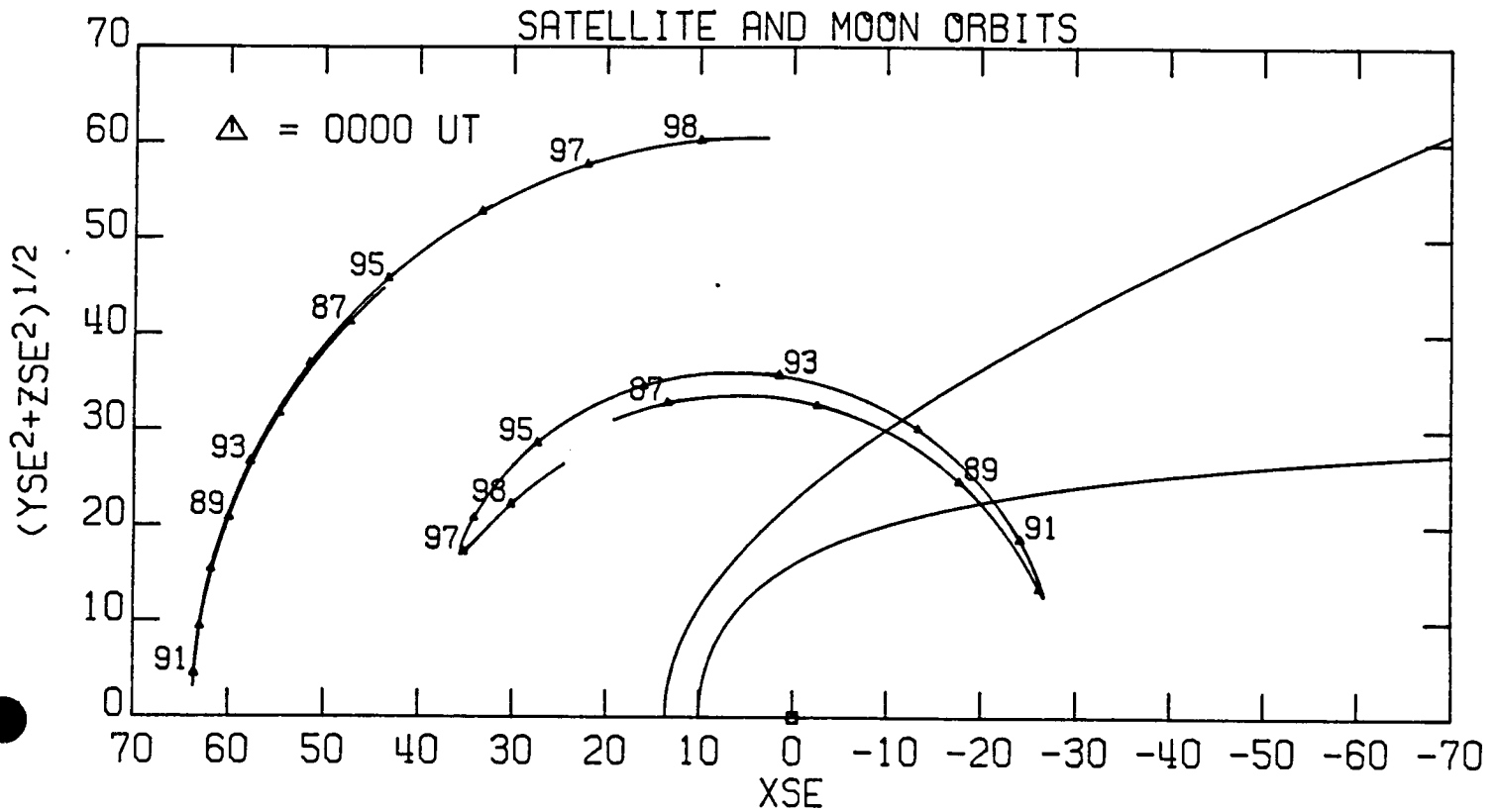


IMP 7 TRAJECTORY.

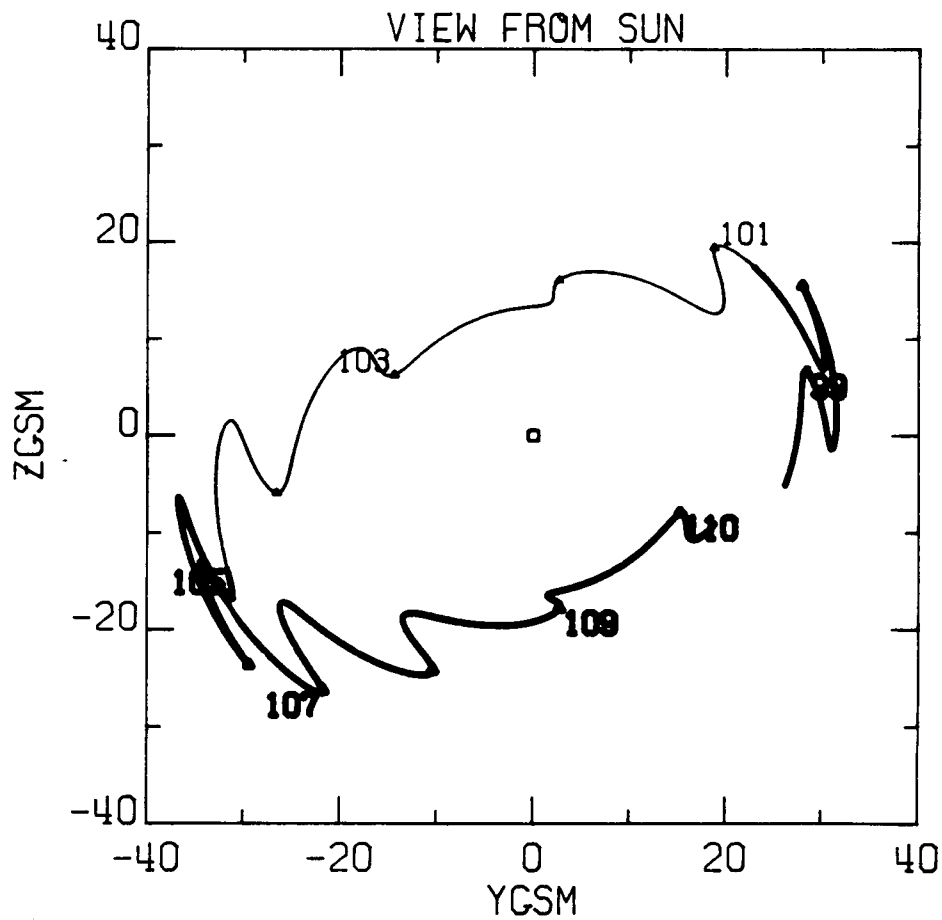
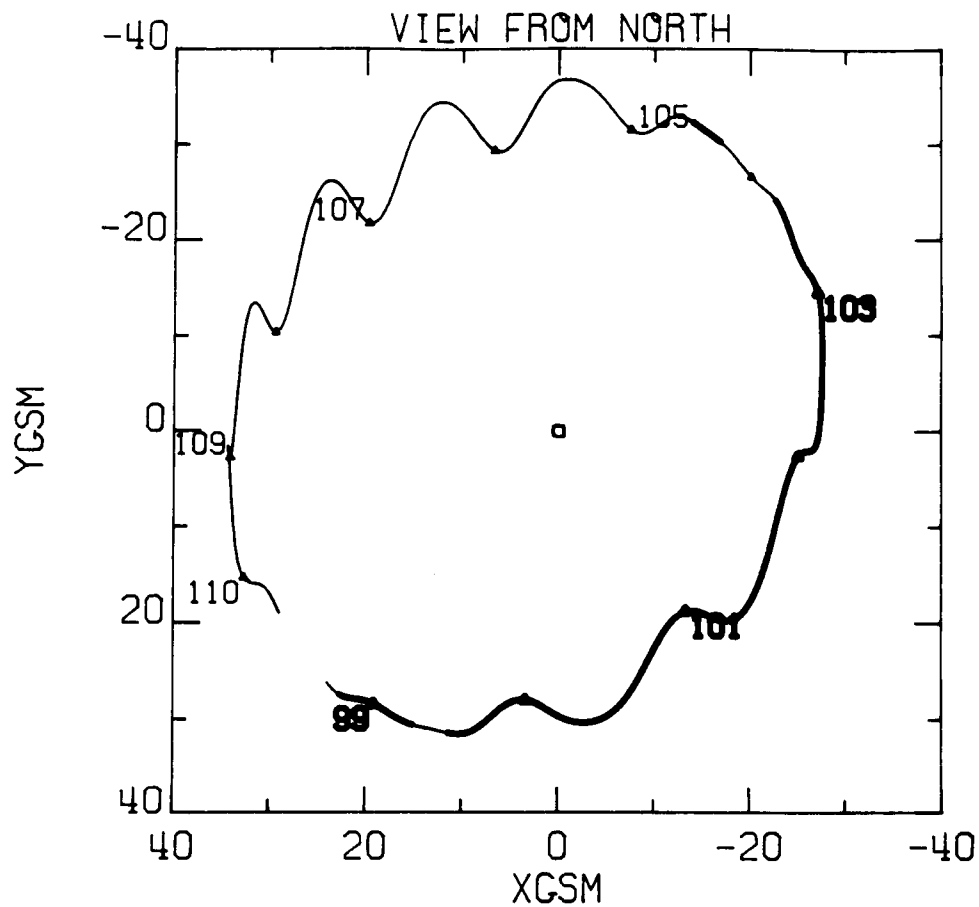
ASCENDING NODE 106

FROM MAR 26 TO APR 7 1976

DAYS 86 THRU 98



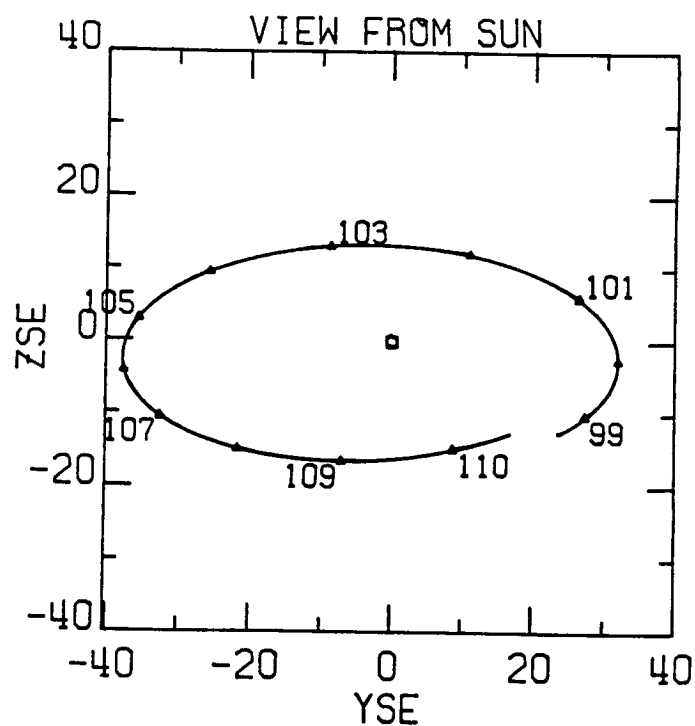
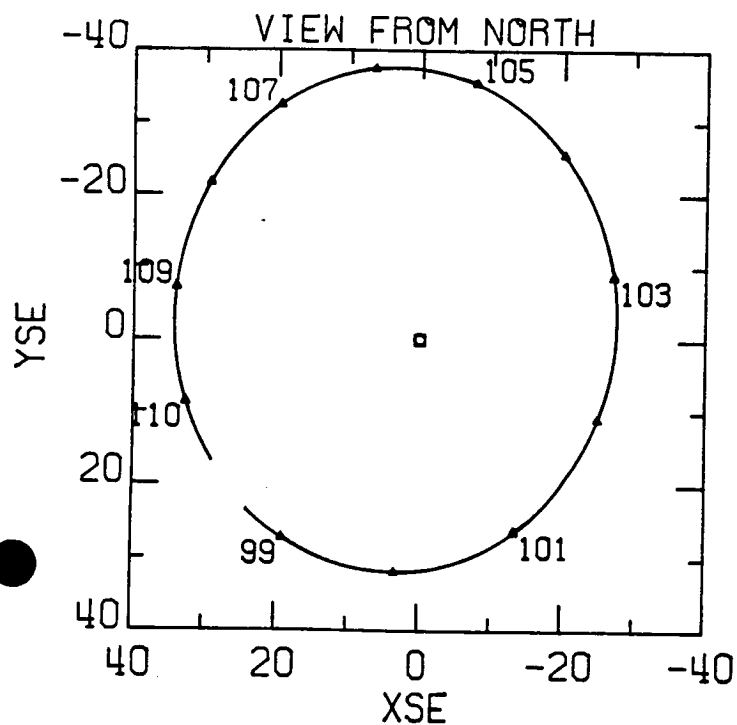
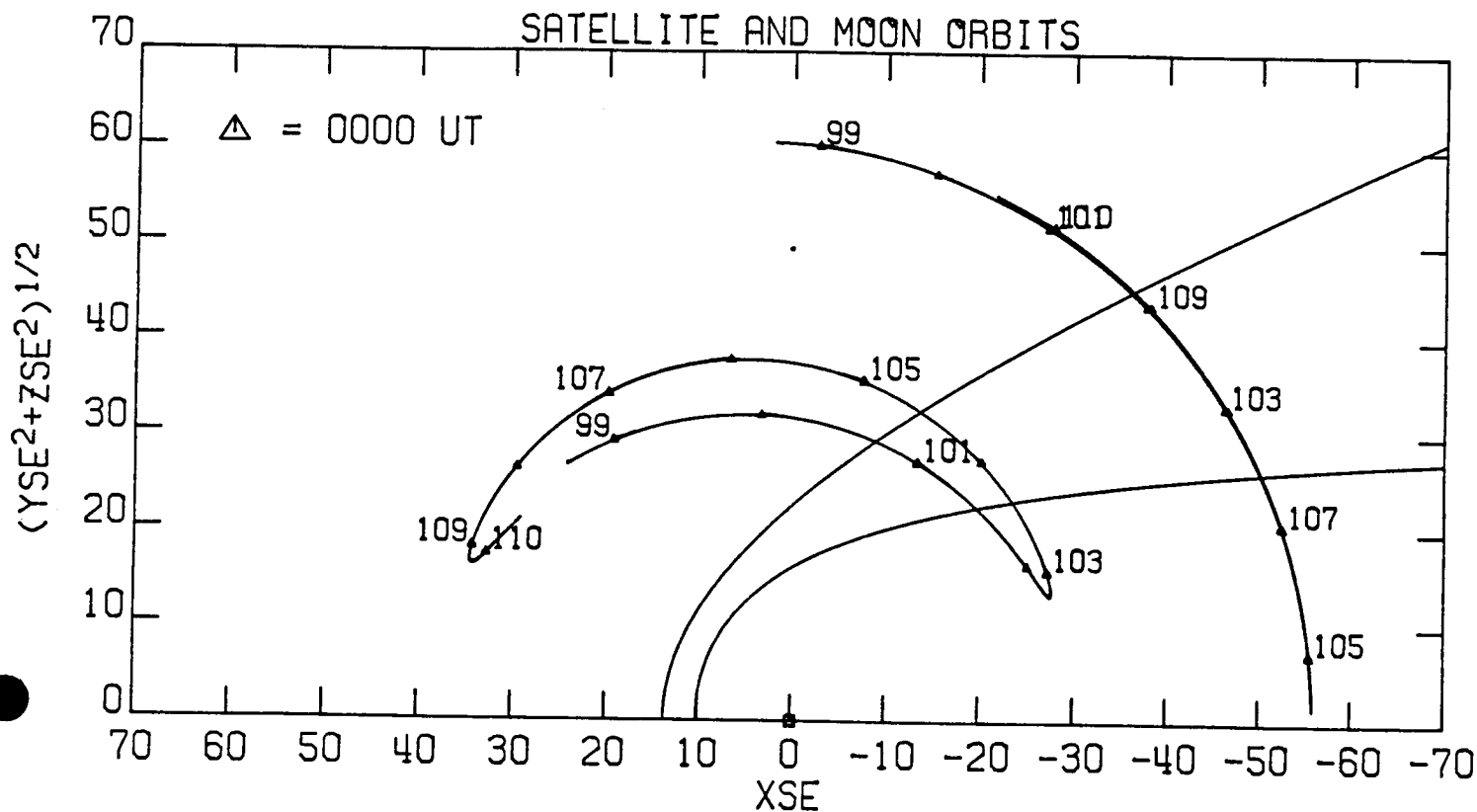
IMP 7 FROM APR 7 TO APR 19 1976



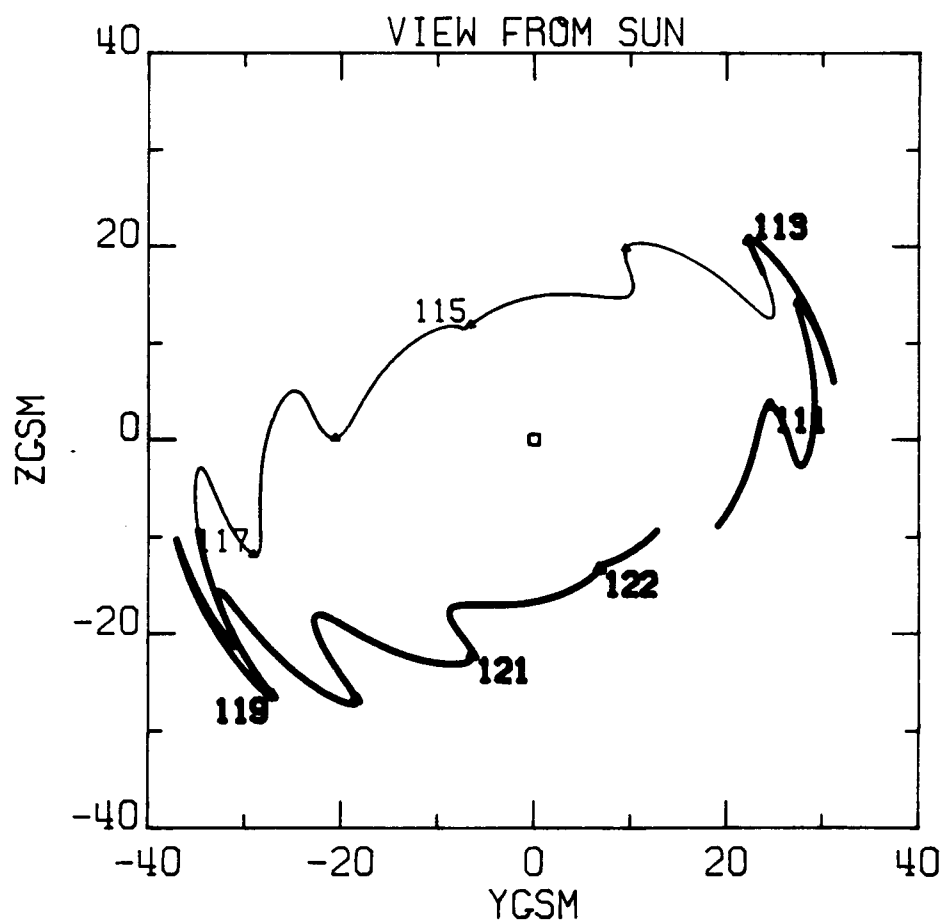
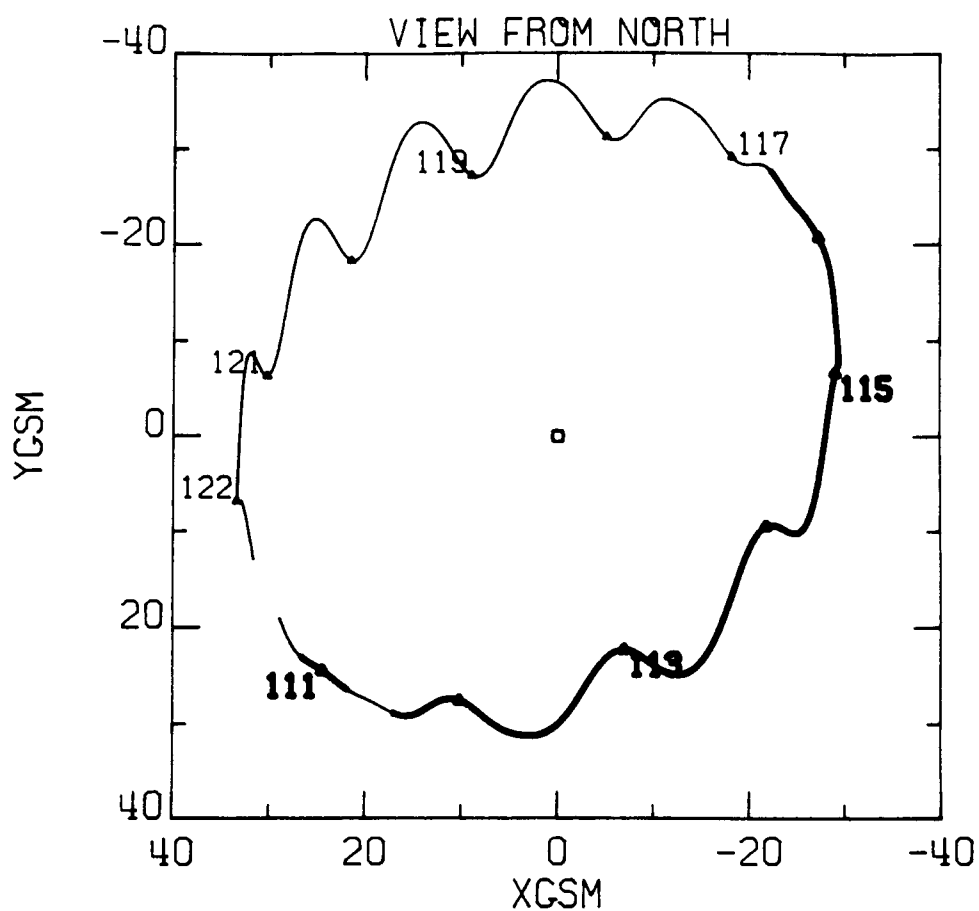
IMP 7 TRAJECTORY. ASCENDING NODE 107

FROM APR 7 TO APR 19 1976

DAYS 98 THRU 110



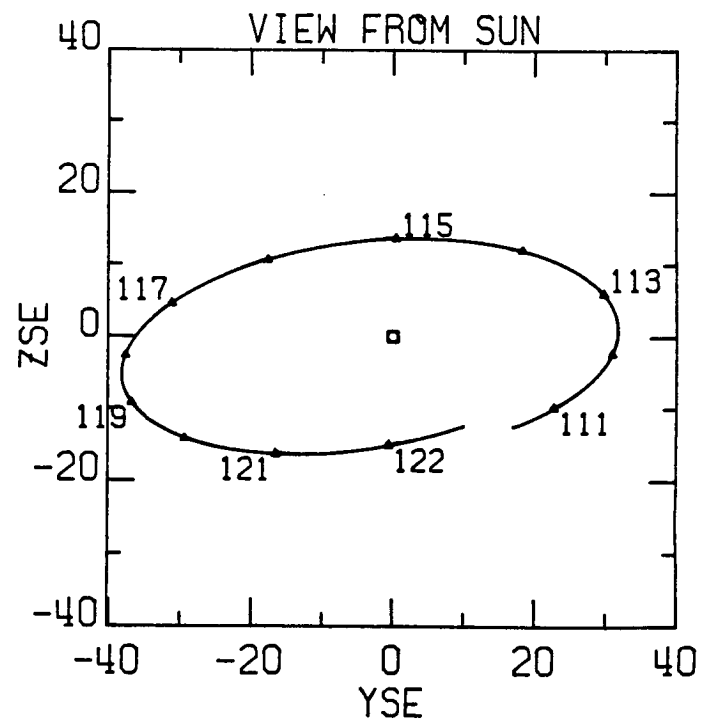
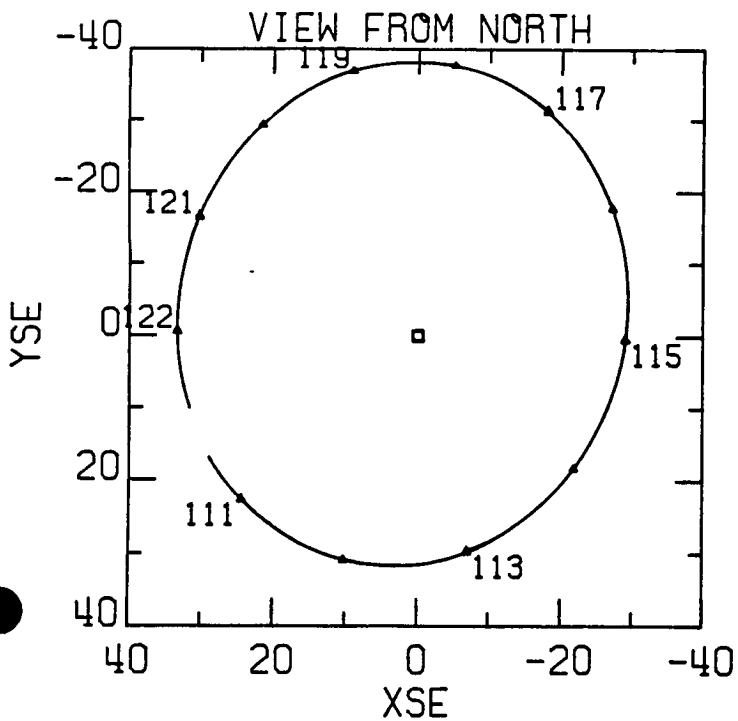
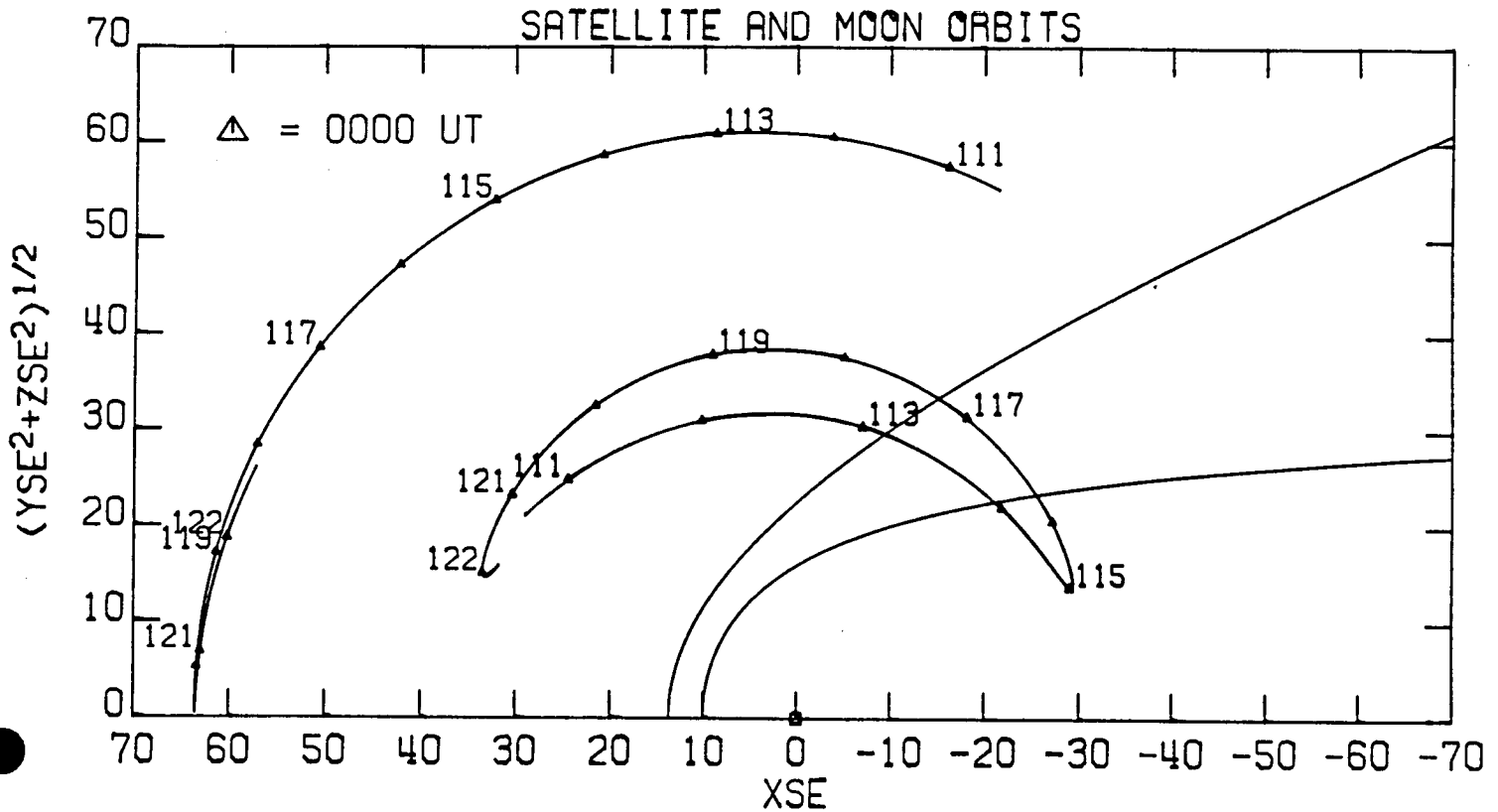
IMP 7 FROM APR 19 TO MAY 1 1976



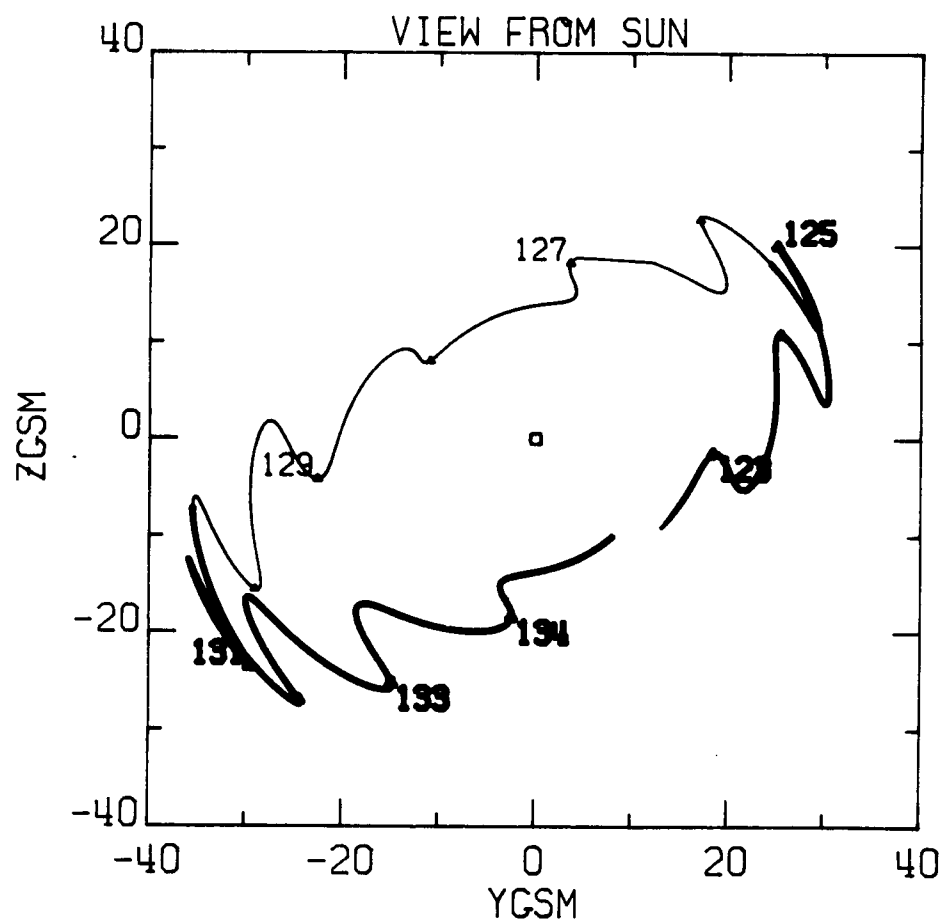
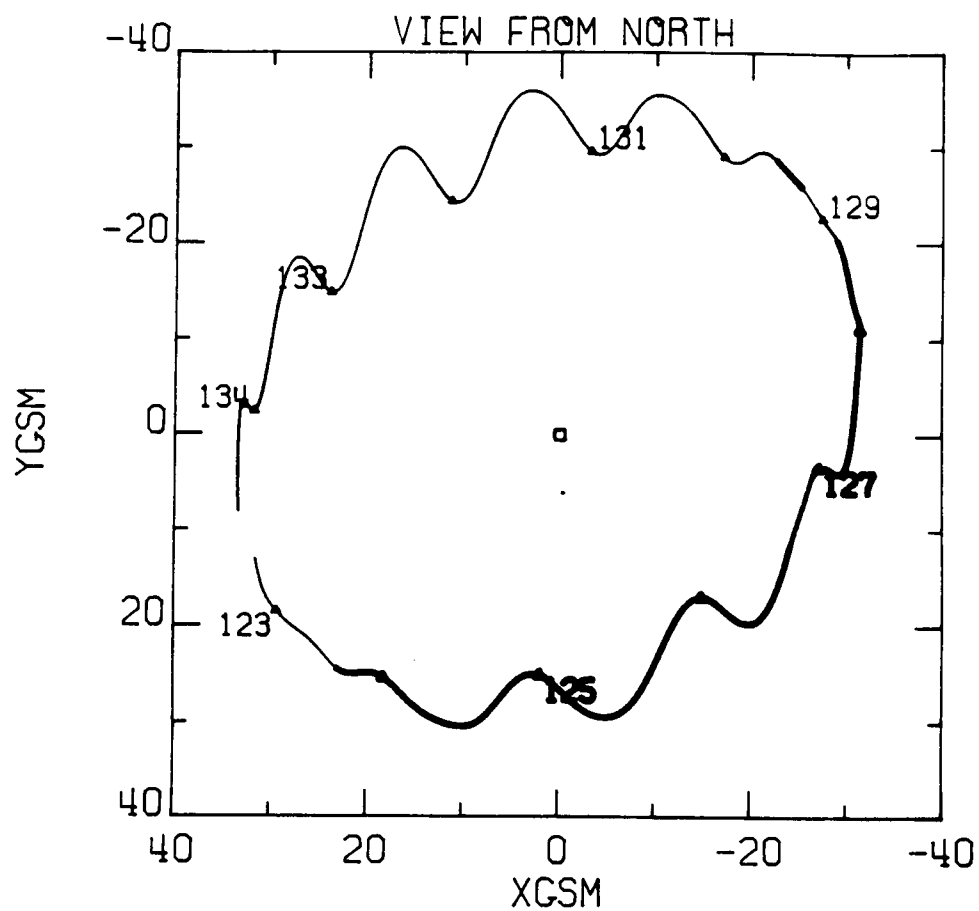
IMP 7 TRAJECTORY. ASCENDING NODE 108

FROM APR 19 TO MAY 1 1976

DAYS 110 THRU 122



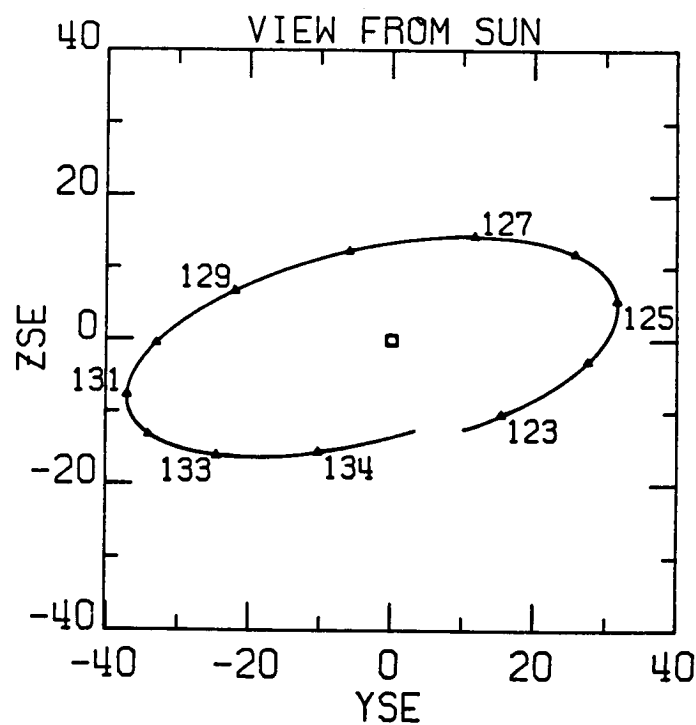
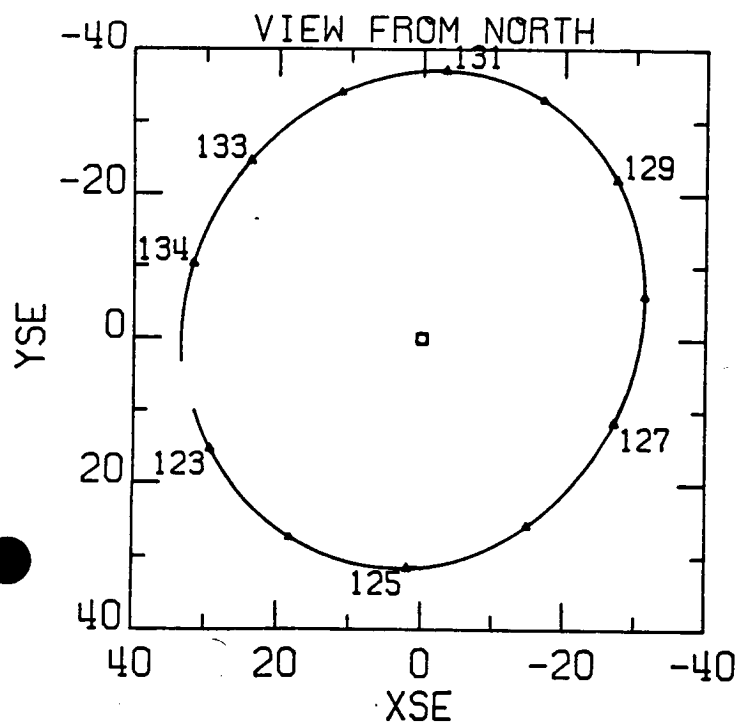
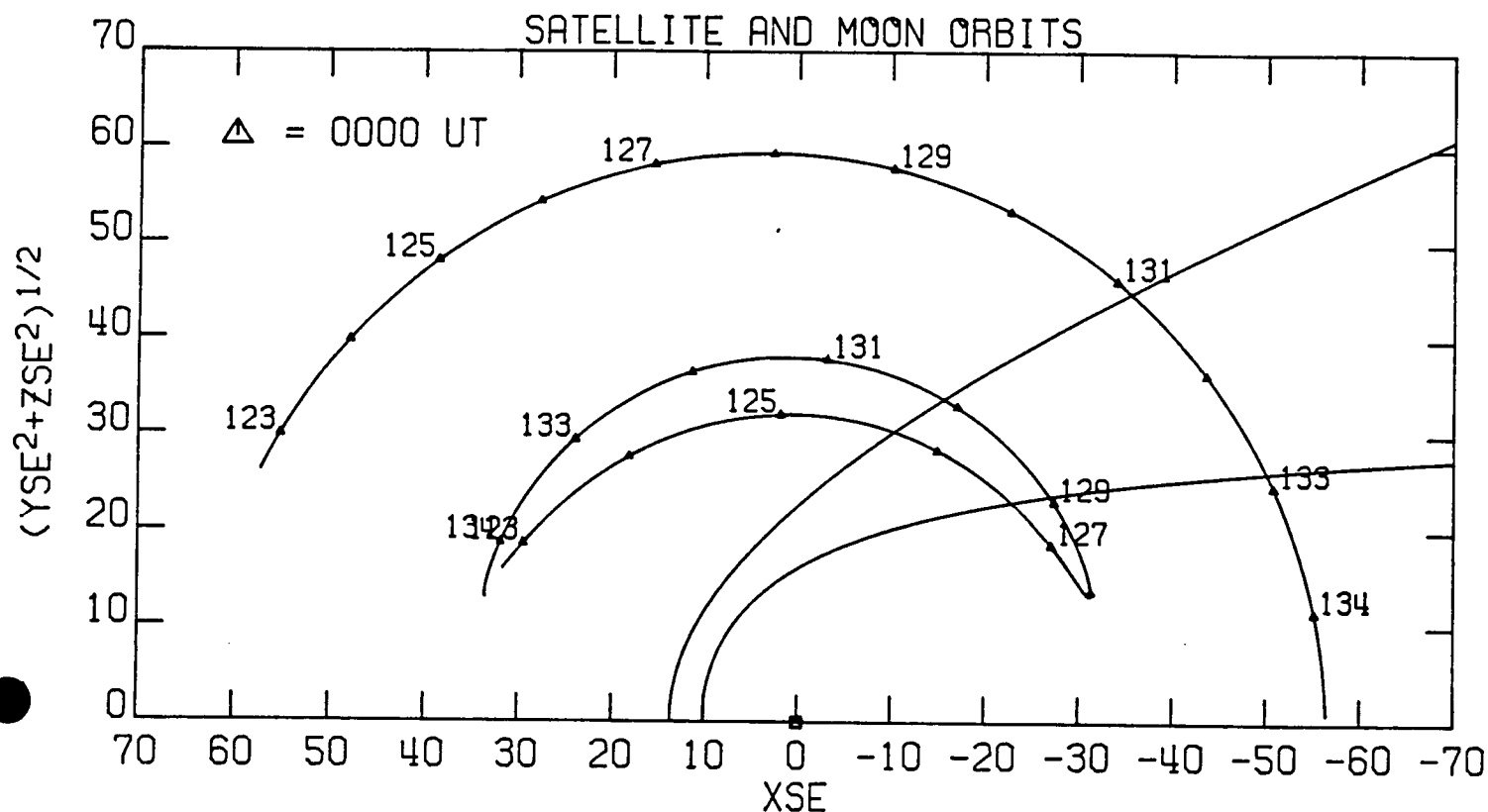
IMP 7 FROM MAY 1 TO MAY 13 1976



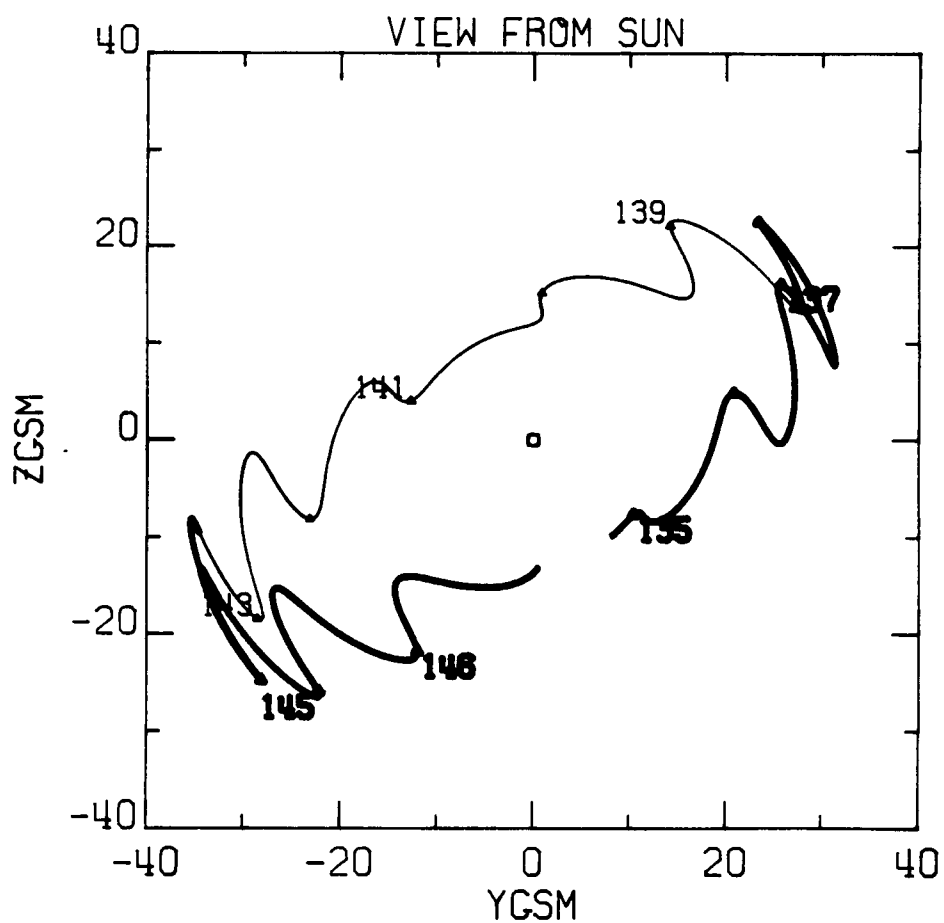
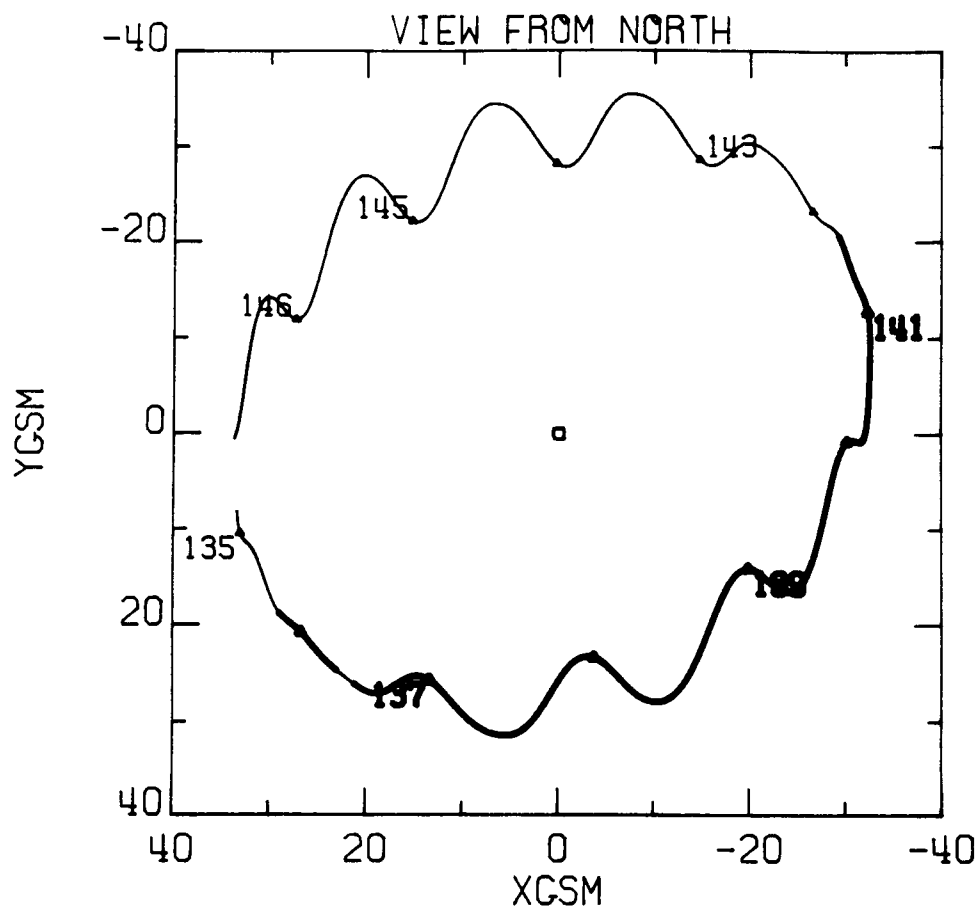
IMP 7 TRAJECTORY. ASCENDING NODE 109

FROM MAY 1 TO MAY 13 1976

DAYS 122 THRU 134



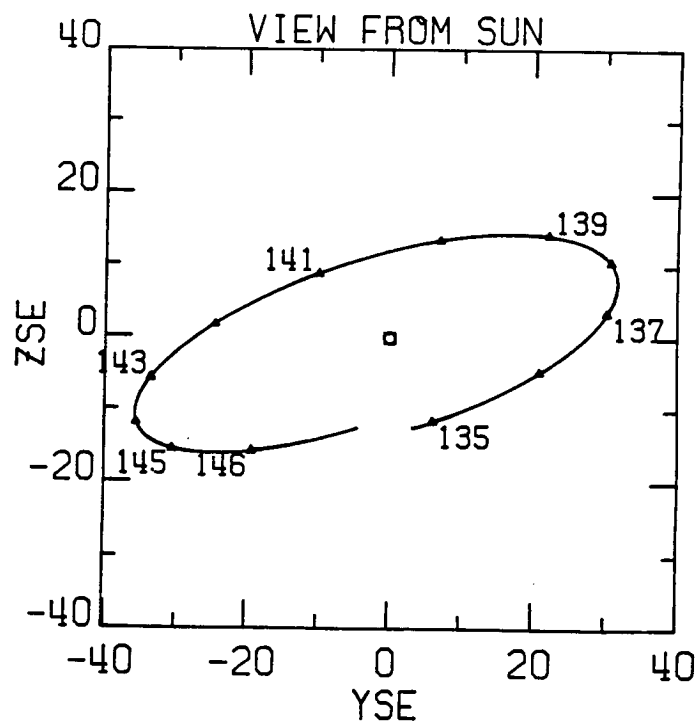
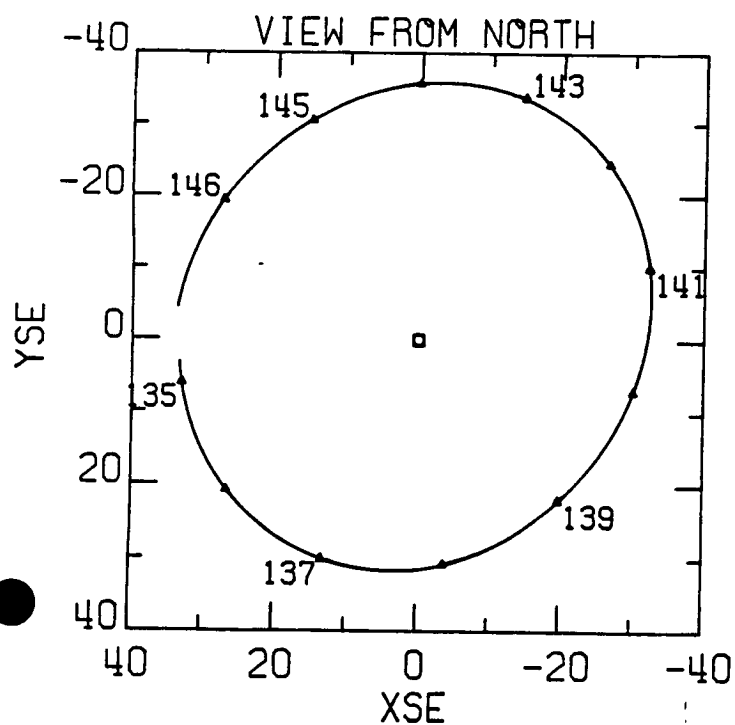
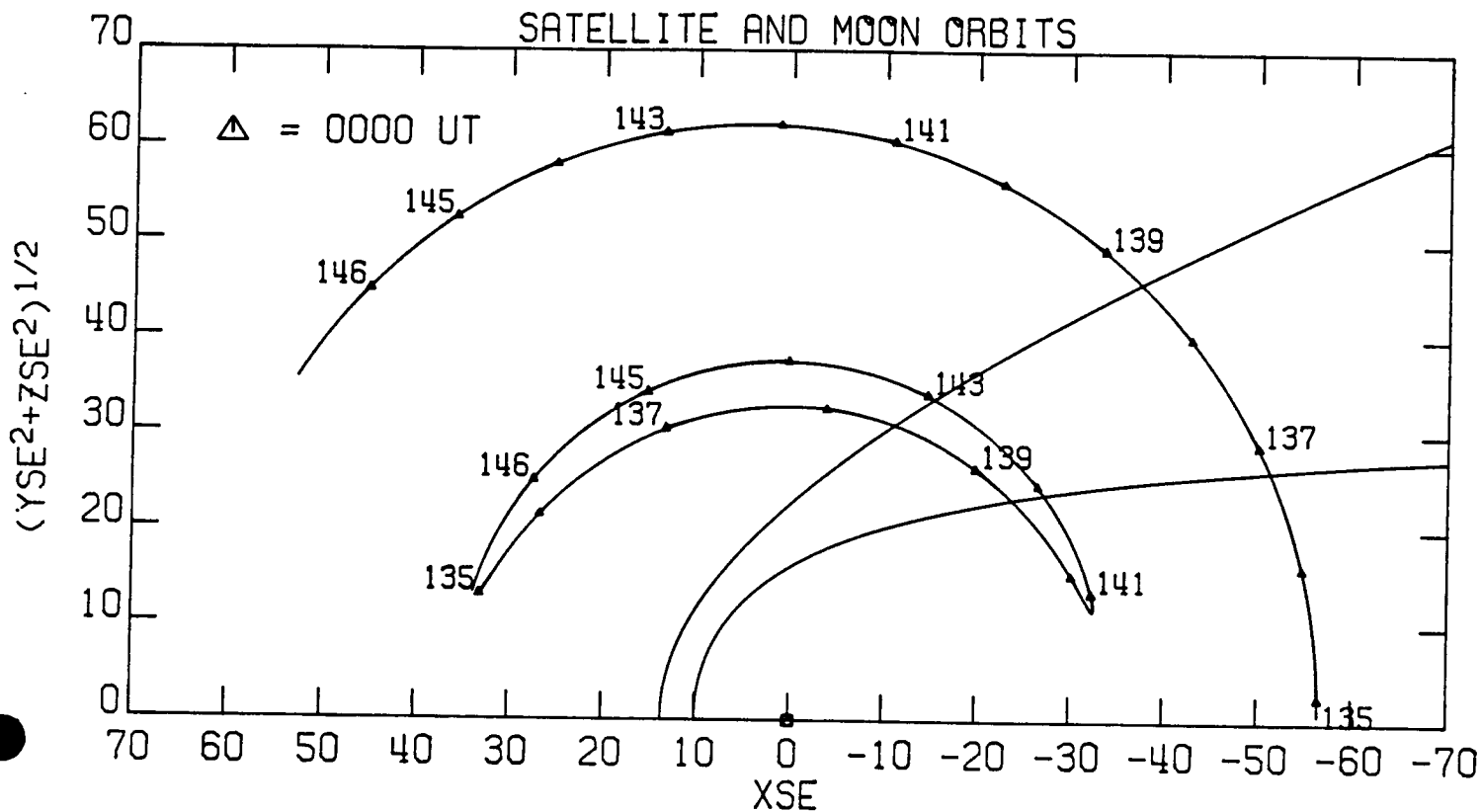
IMP 7 FROM MAY 13 TO MAY 25 1976



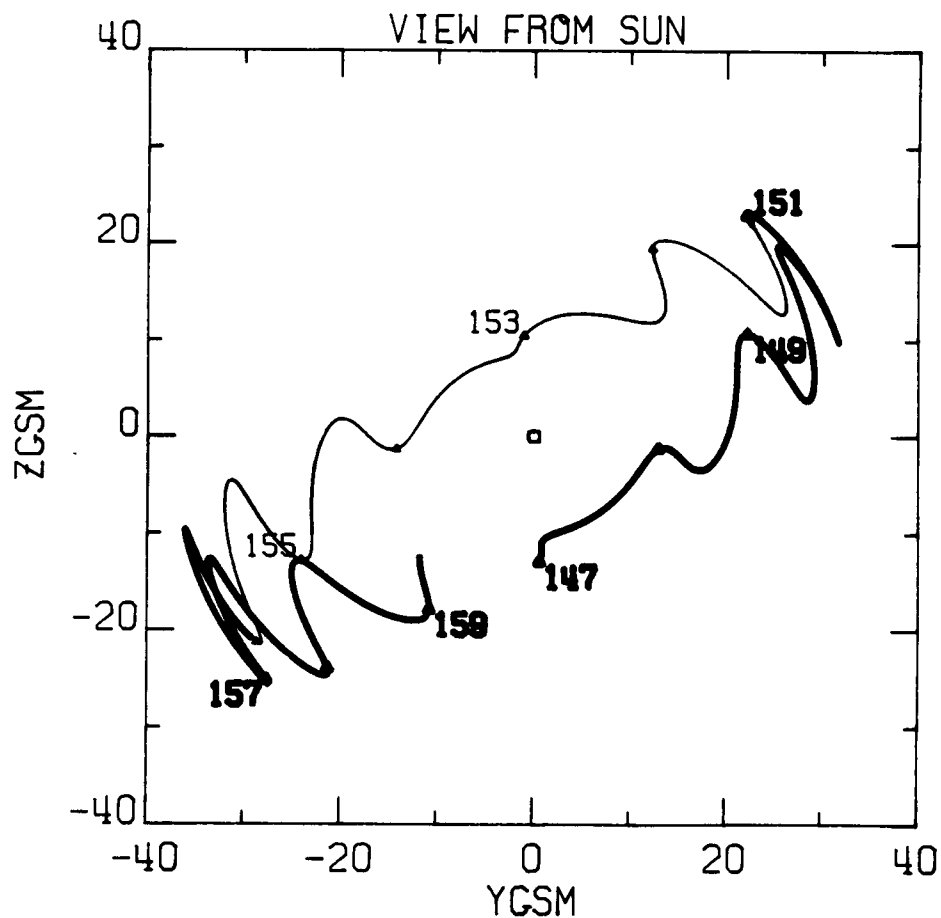
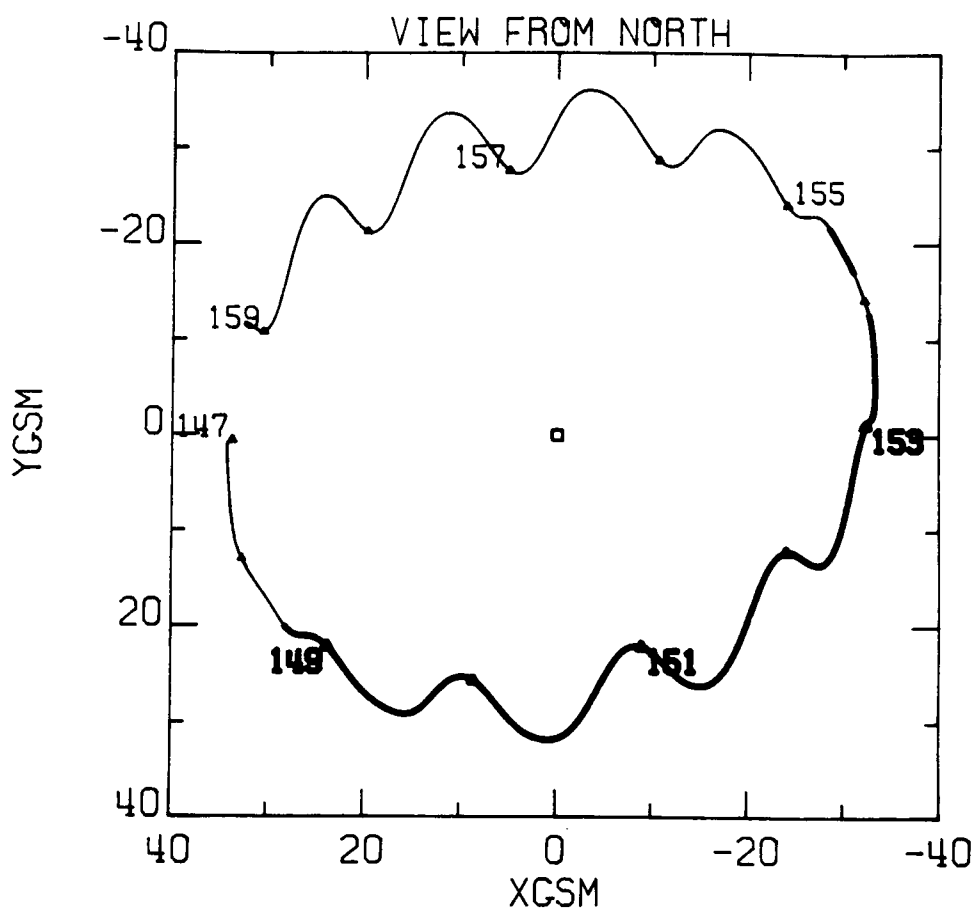
IMP 7 TRAJECTORY. ASCENDING NODE 110

FROM MAY 13 TO MAY 25 1976

DAYS 134 THRU 146



IMP 7 FROM MAY 25 TO JUN 7 1976

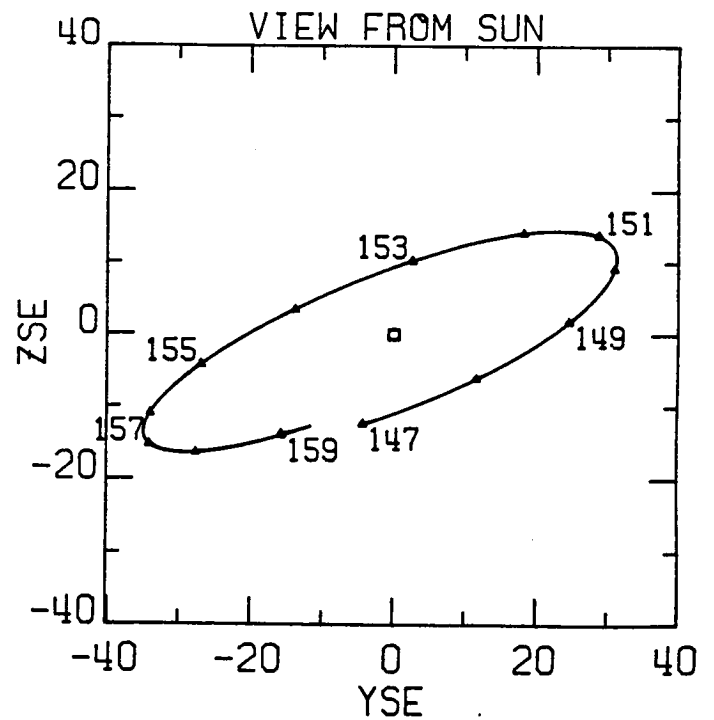
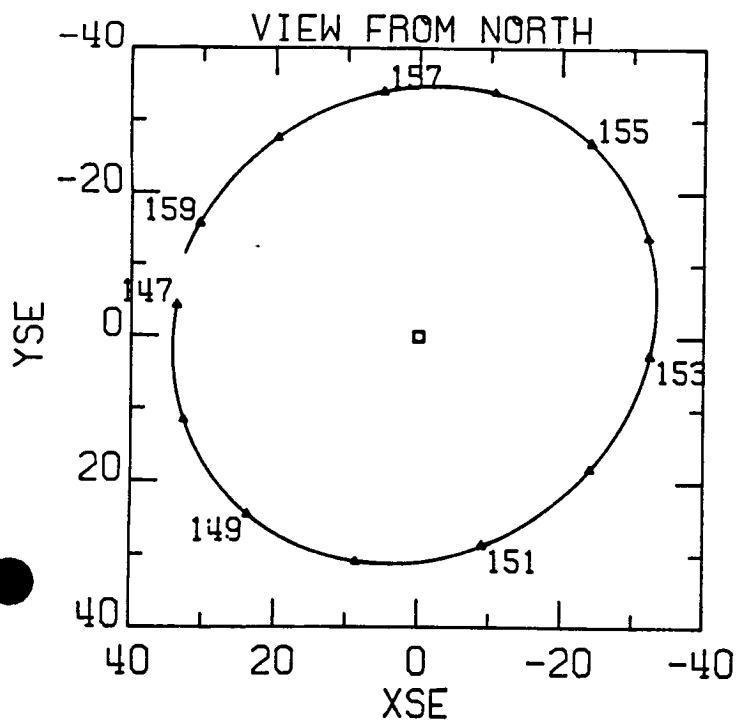
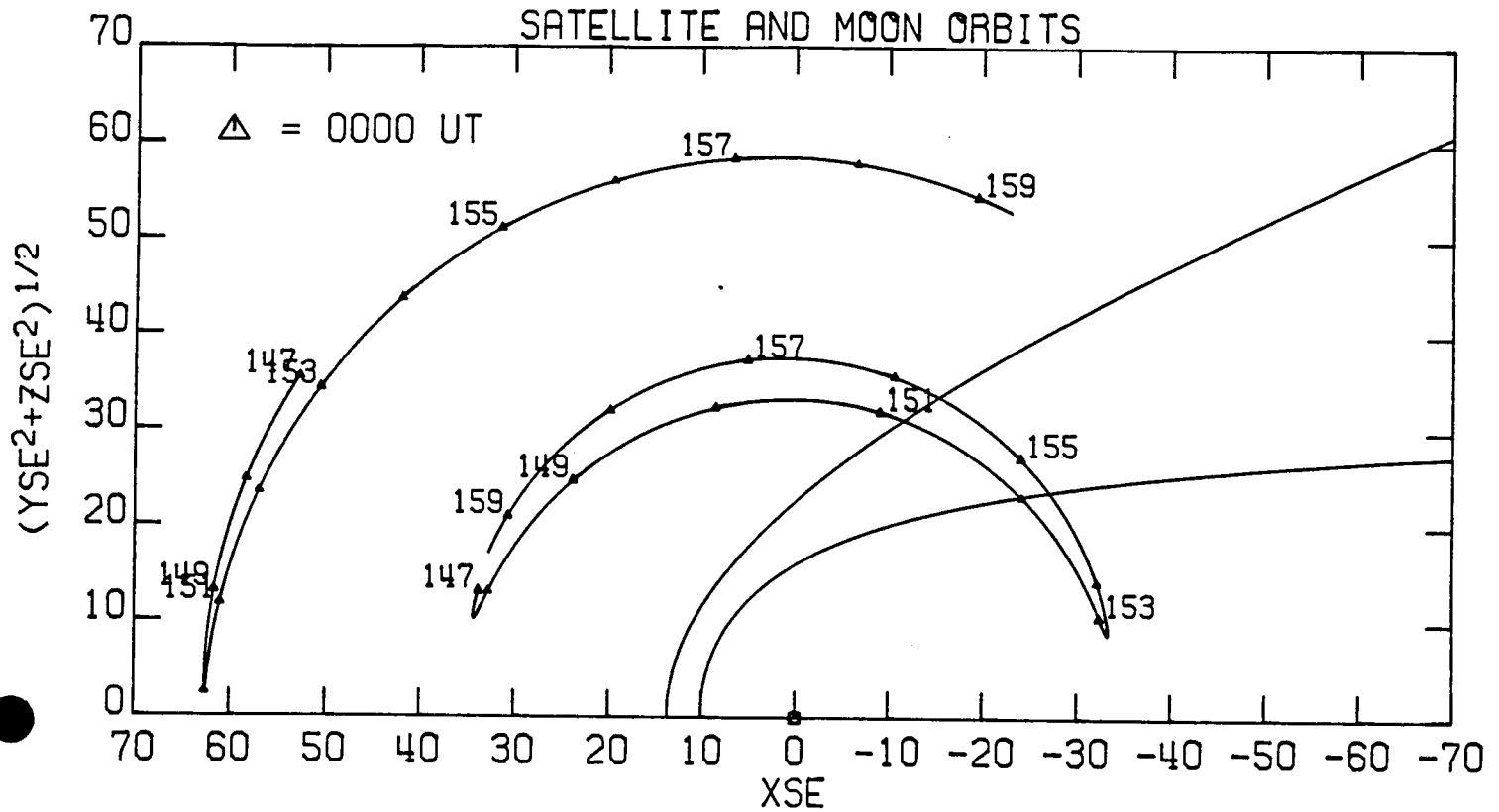


IMP 7 TRAJECTORY.

ASCENDING NODE 111

FROM MAY 25 TO JUN 7 1976

DAYS 146 THRU 159

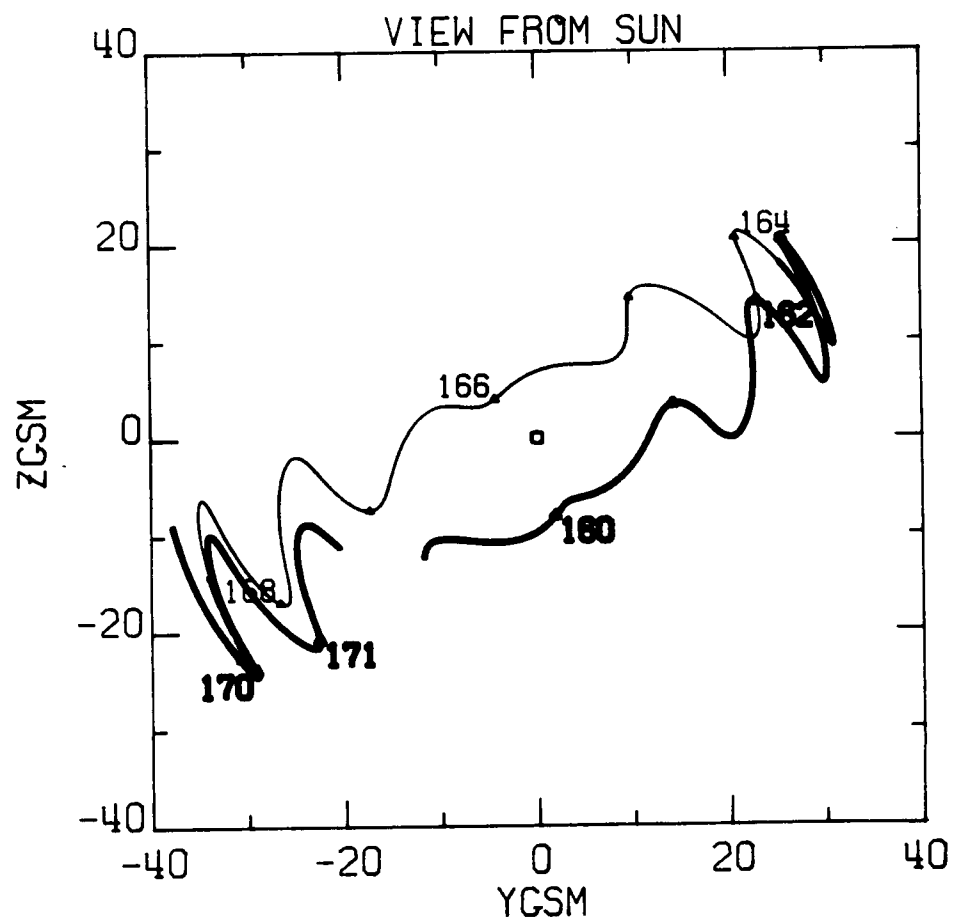
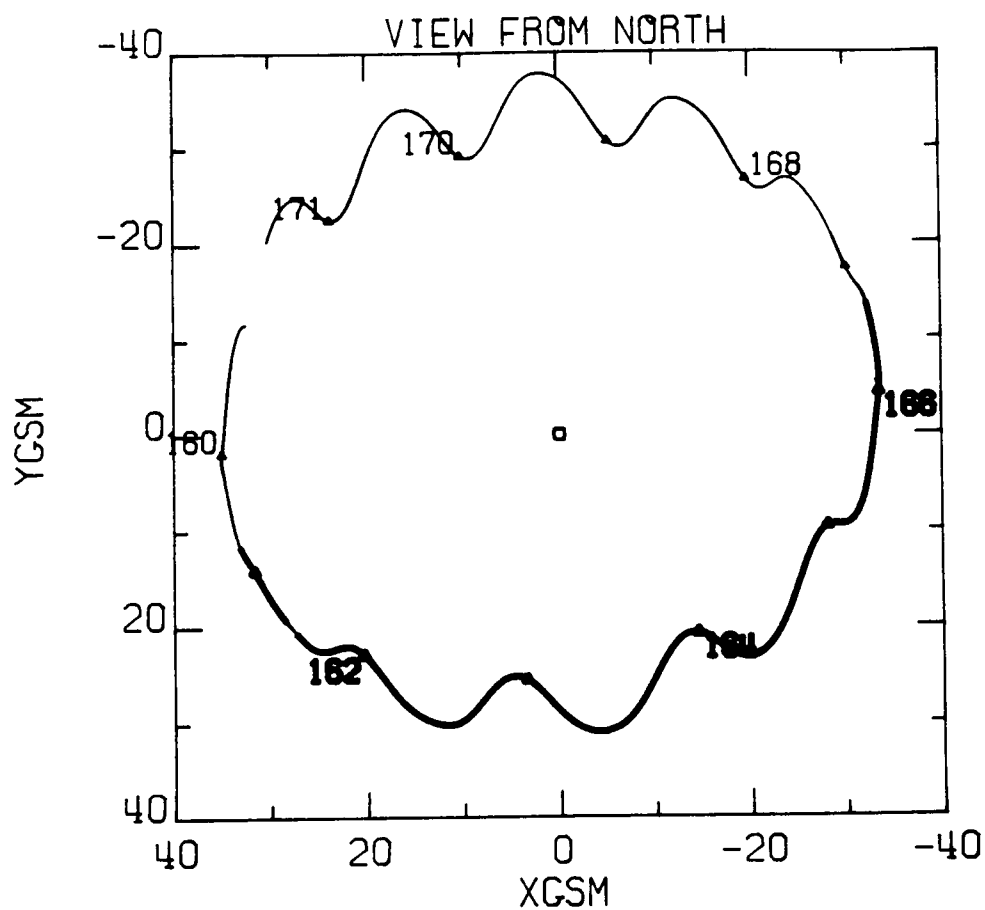


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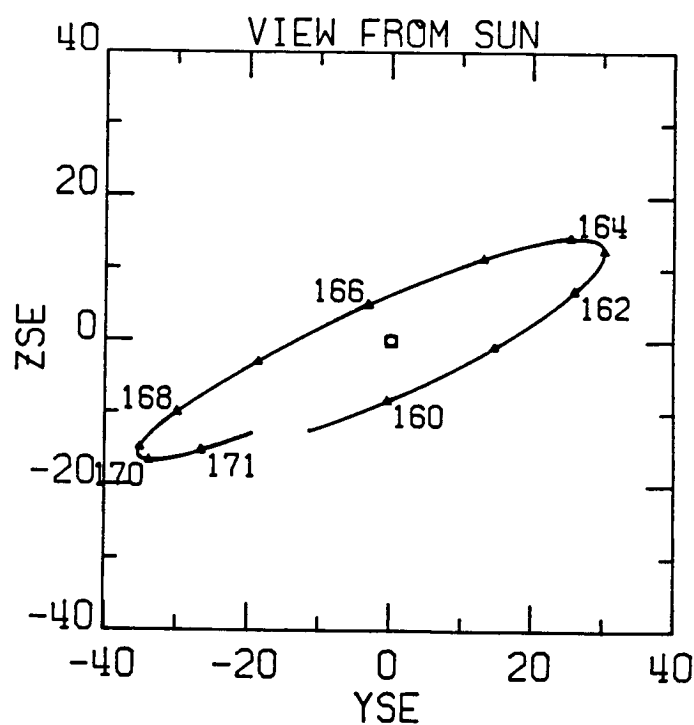
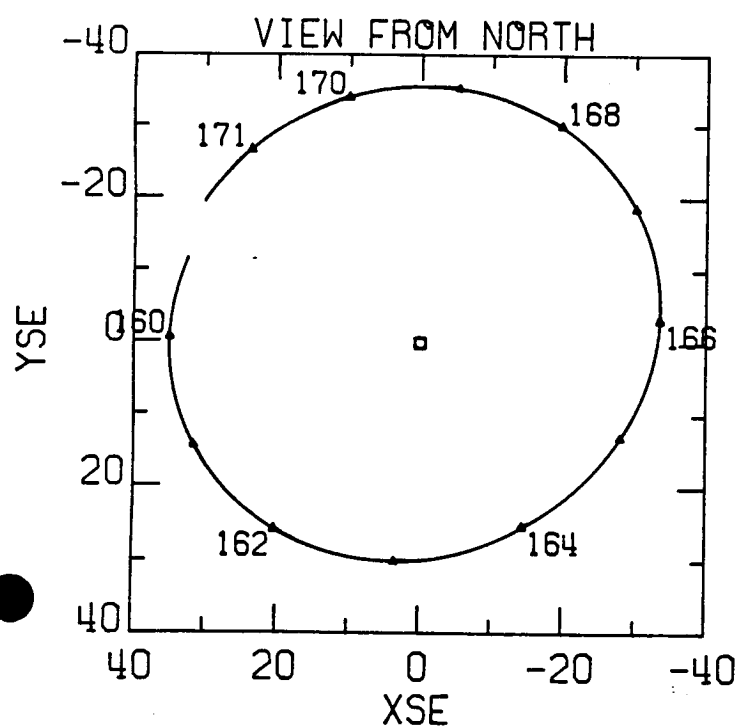
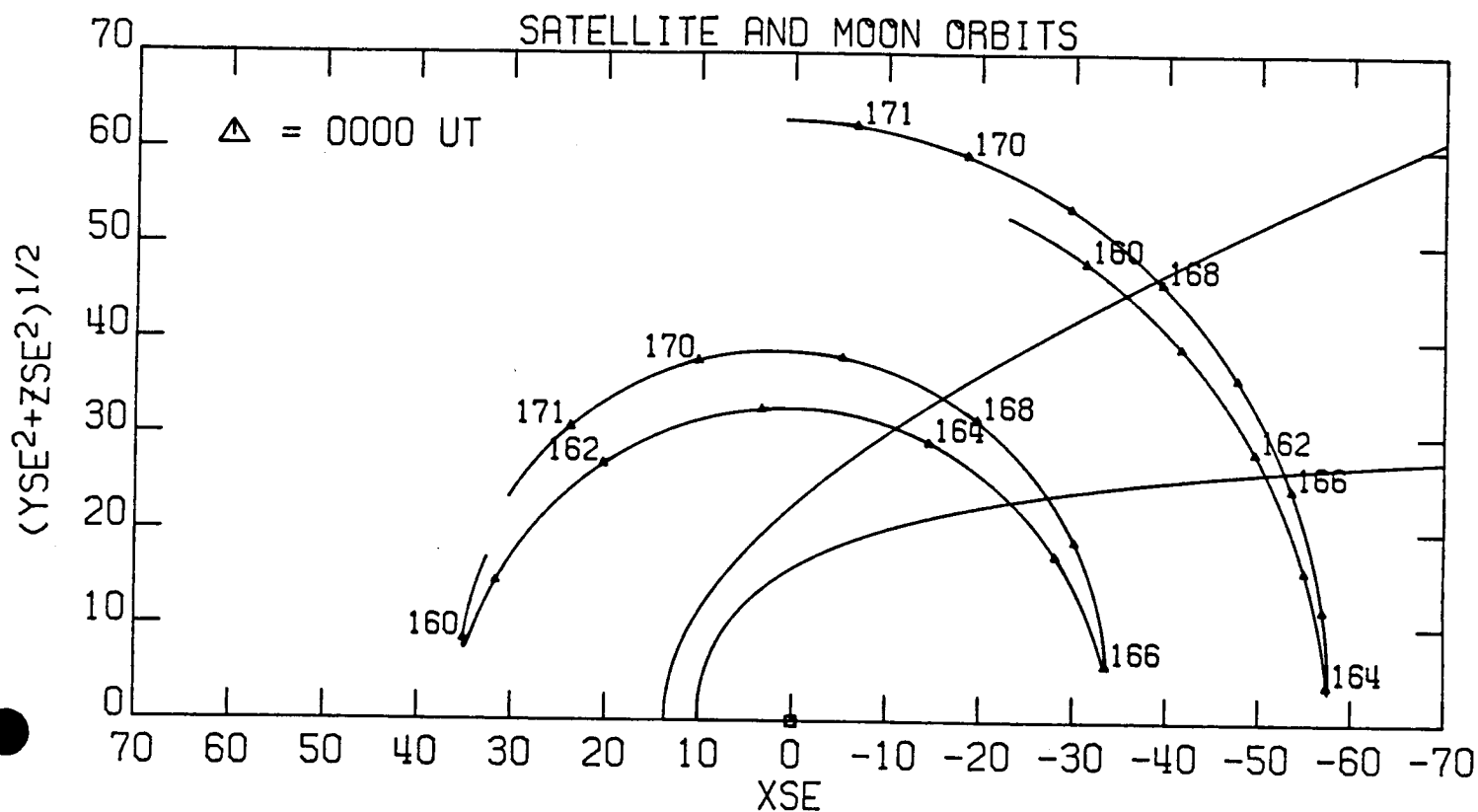
IMP 7 FROM JUN 7 TO JUN 19 1976



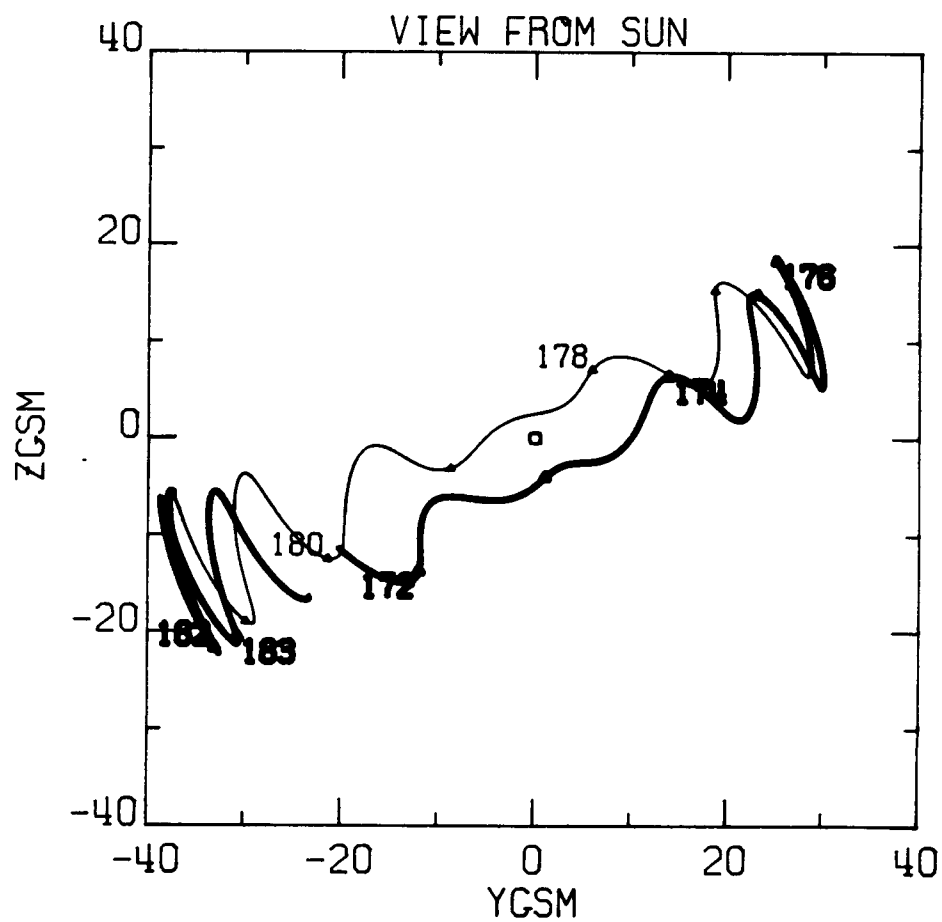
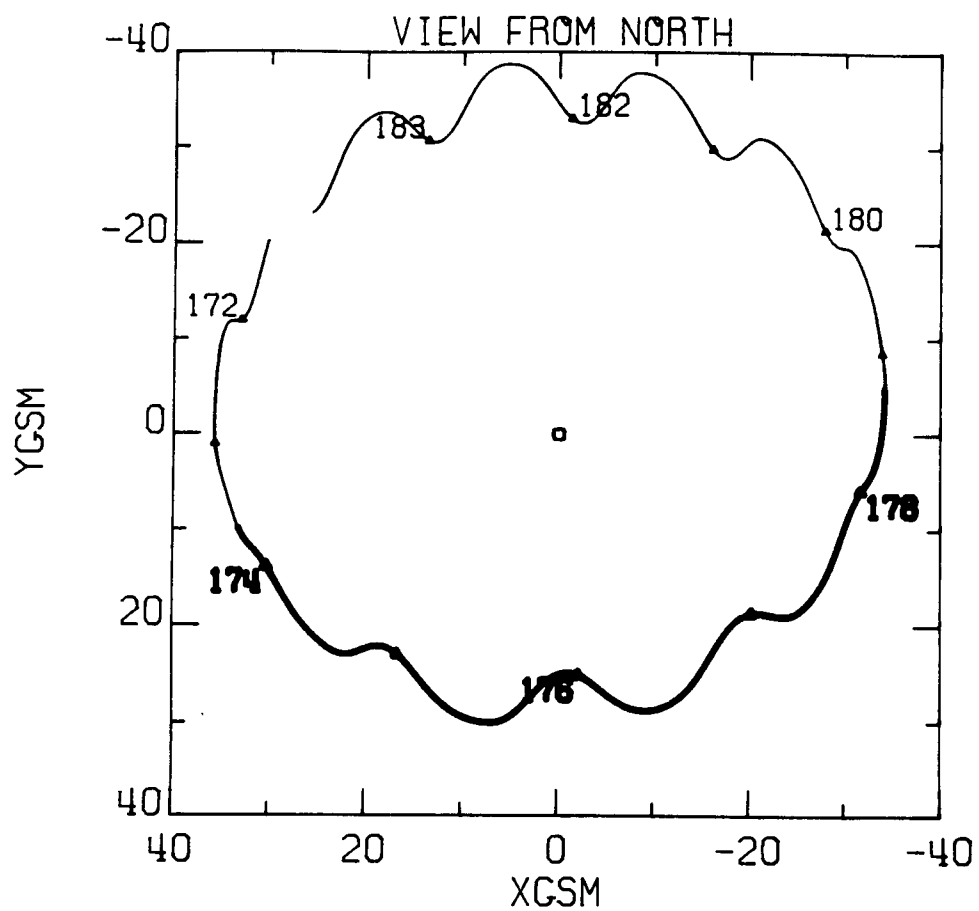
IMP 7 TRAJECTORY. ASCENDING NODE 112

FROM JUN 7 TO JUN 19 1976

DAYS 159 THRU 171



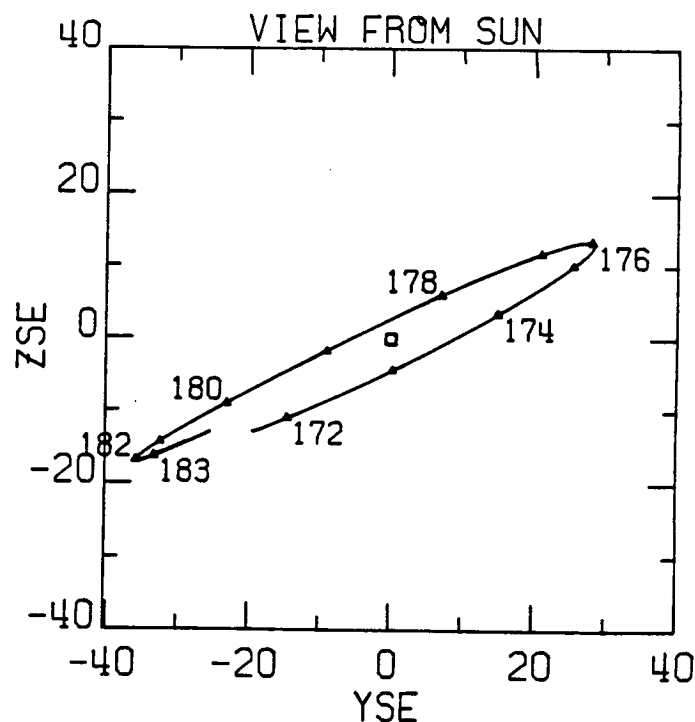
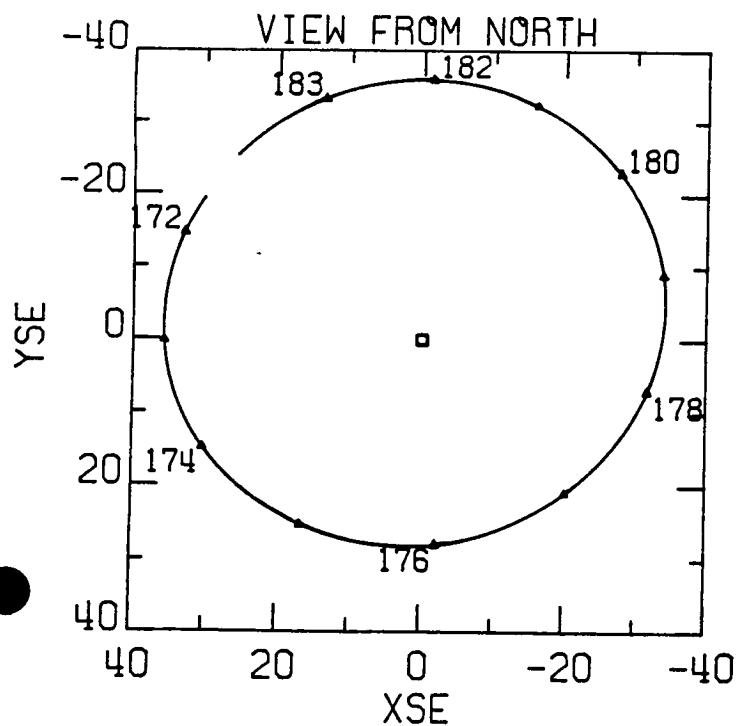
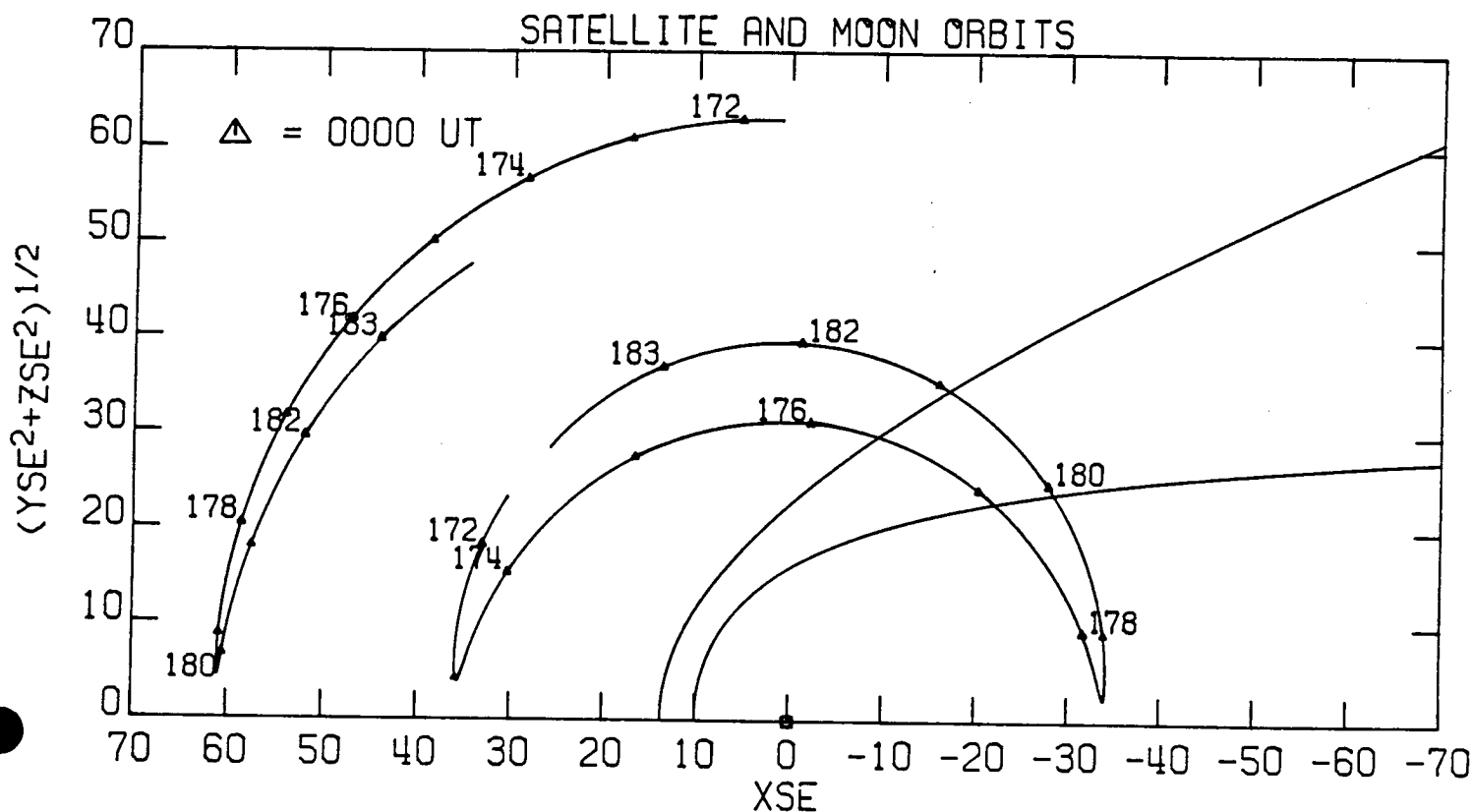
IMP 7 FROM JUN 19 TO JUL 1 1976



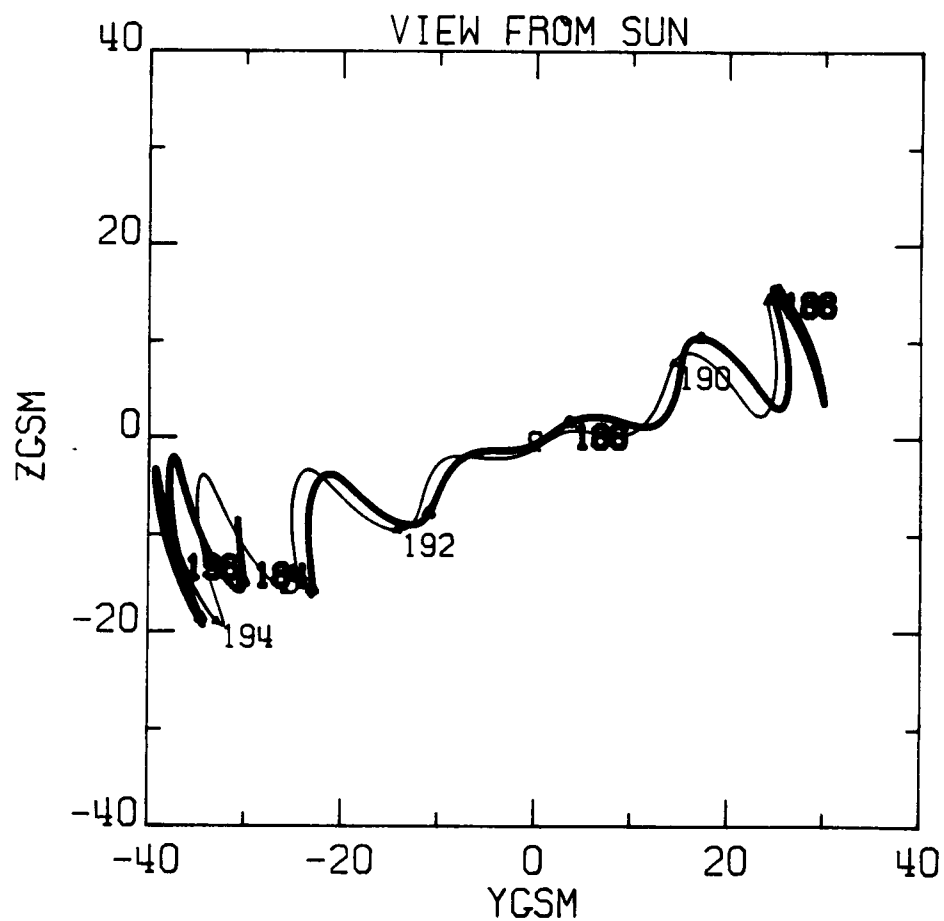
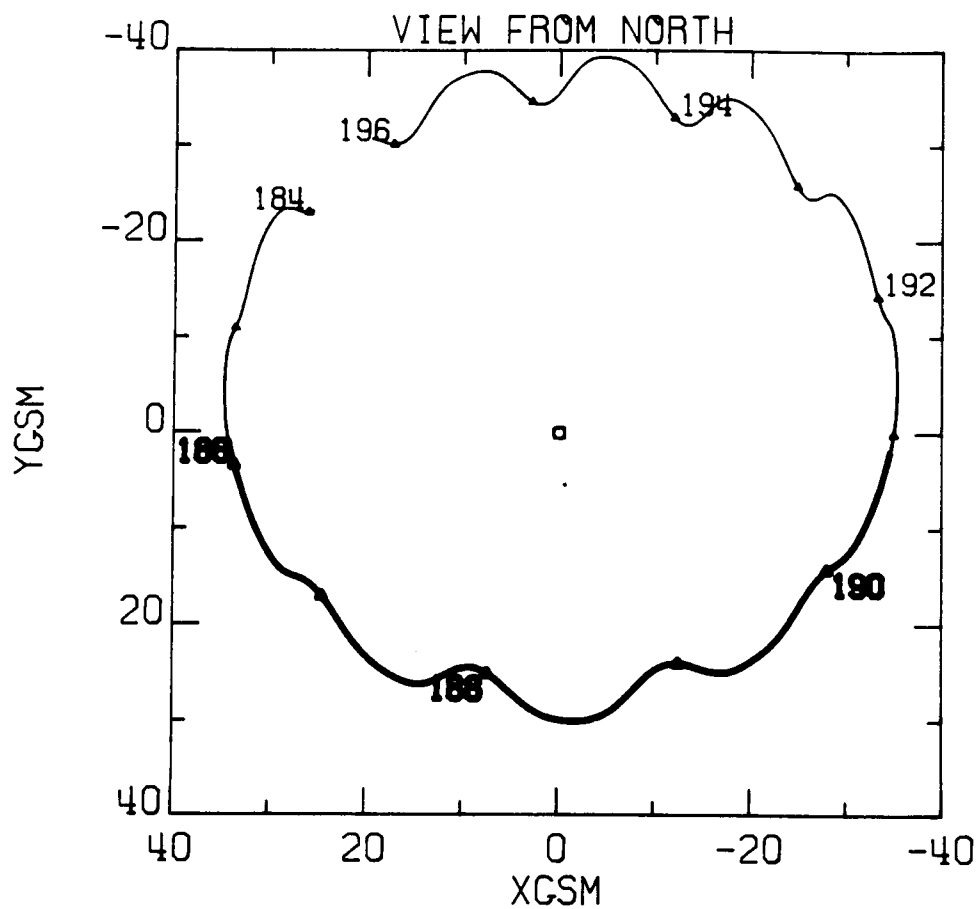
IMP 7 TRAJECTORY. ASCENDING NODE 113

FROM JUN 19 TO JUL 1 1976

DAYS 171 THRU 183



IMP 7 FROM JUL 1 TO JUL 14 1976

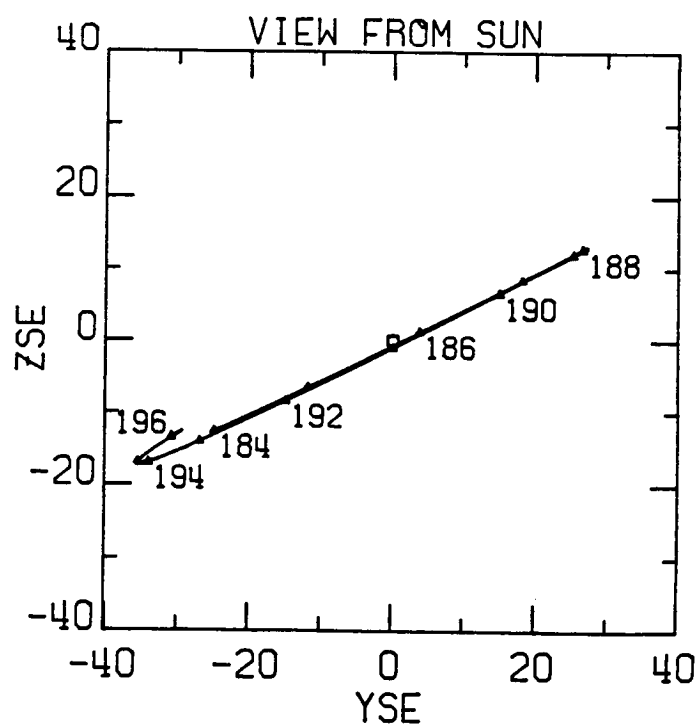
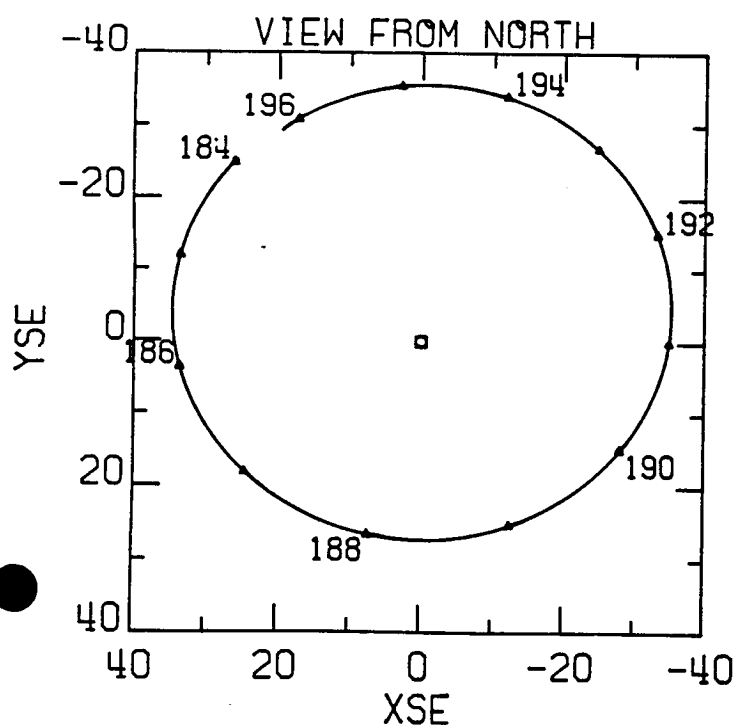
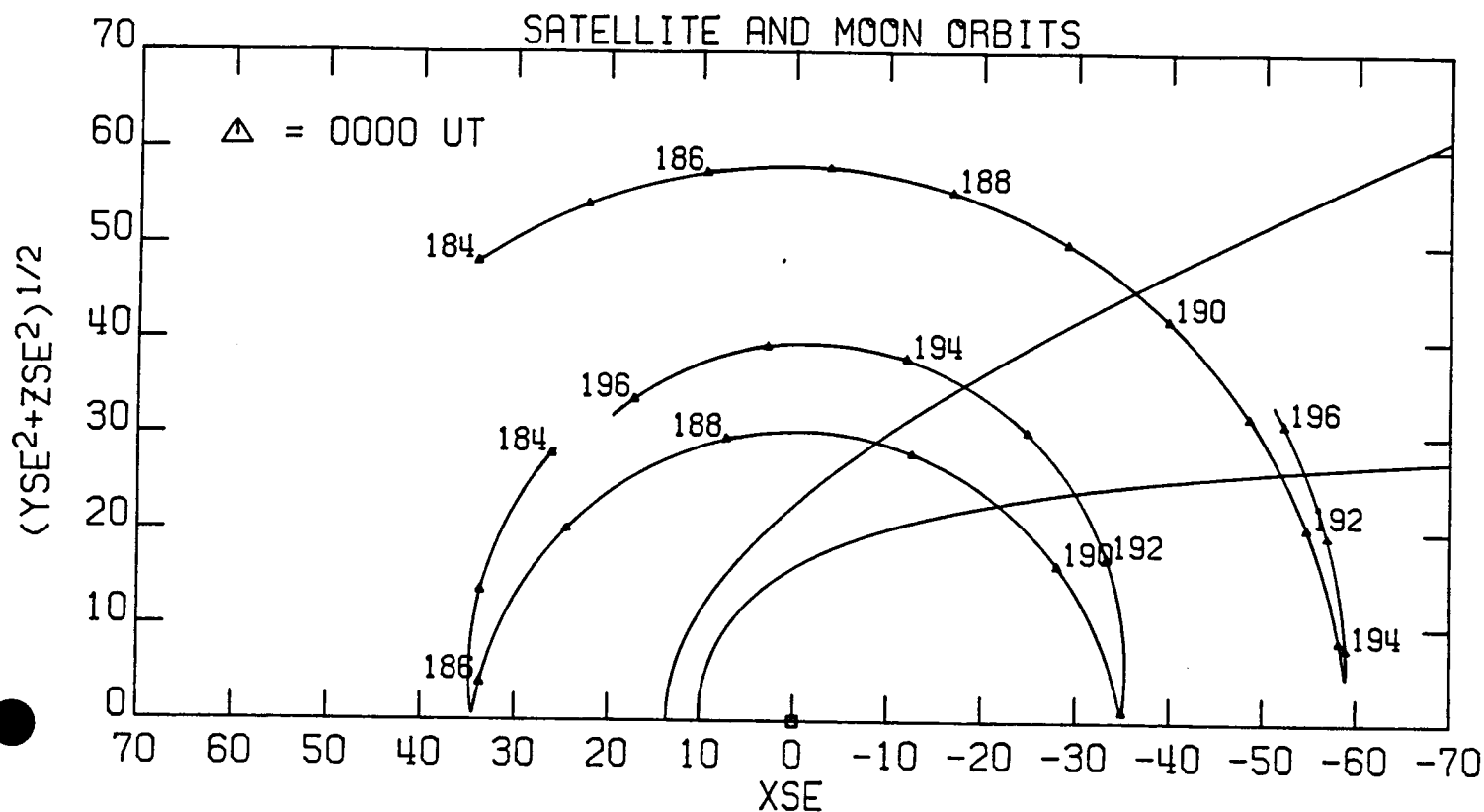


IMP 7 TRAJECTORY.

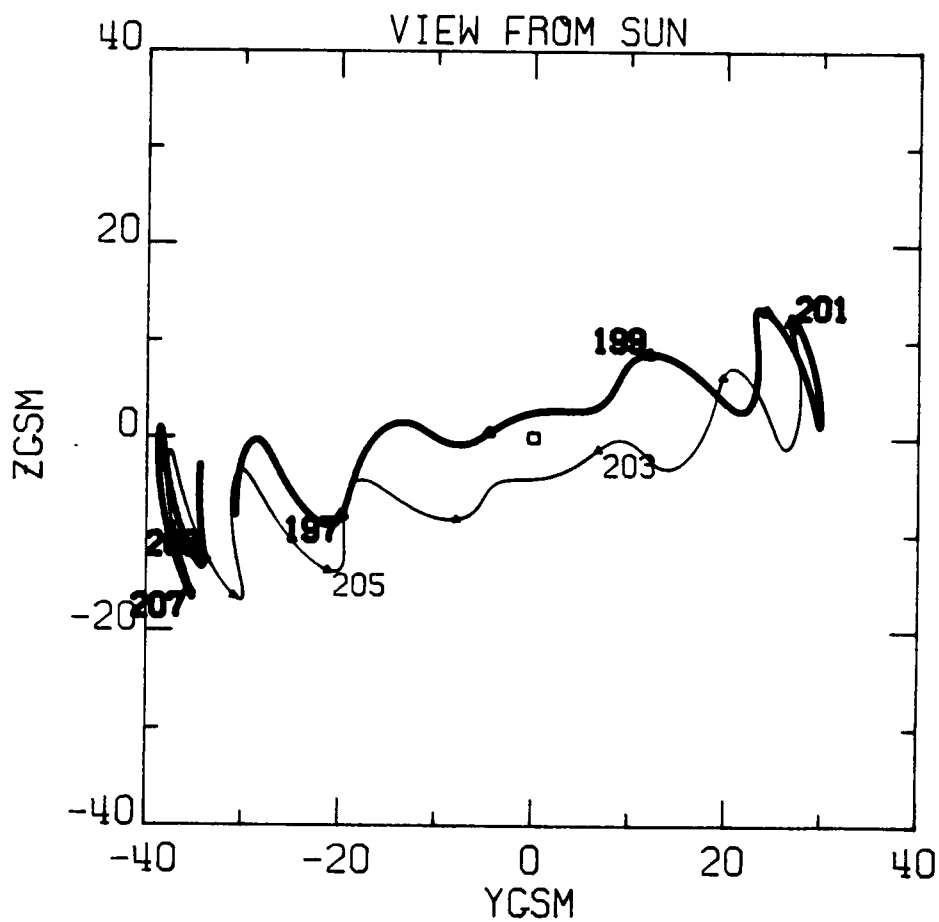
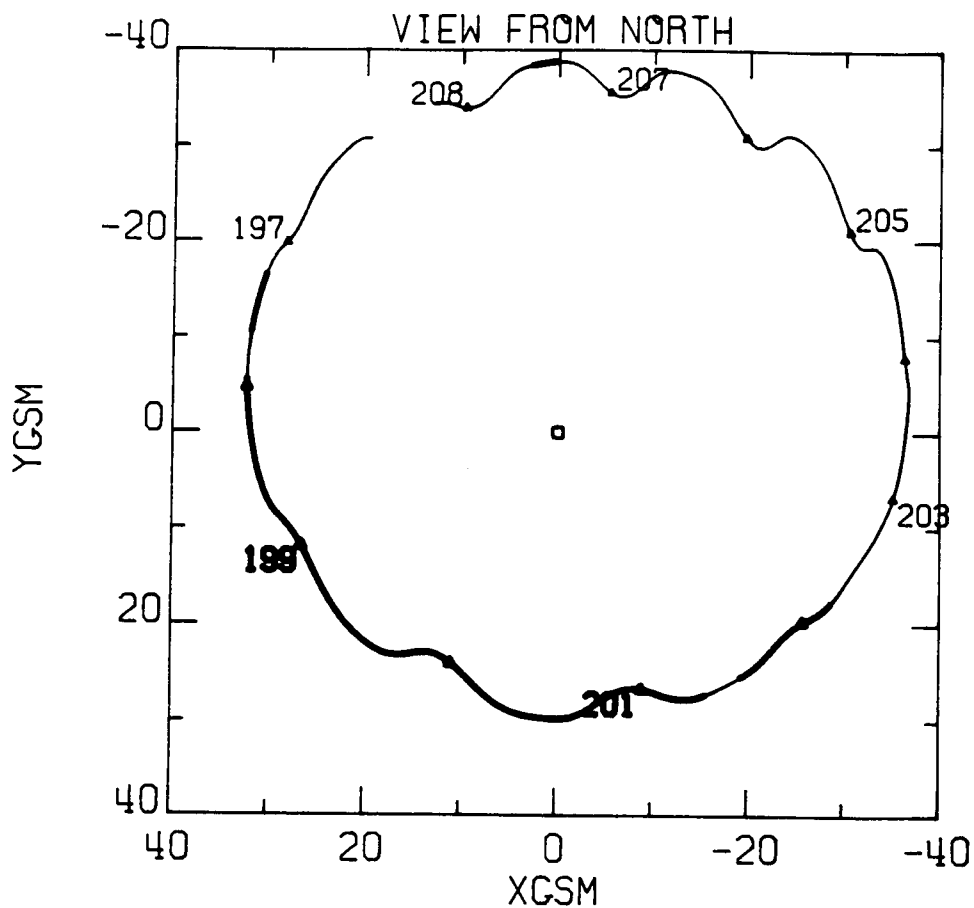
ASCENDING NODE 114

FROM JUL 1 TO JUL 14 1976

DAYS 183 THRU 196



IMP 7 FROM JUL 14 TO JUL 26 1976



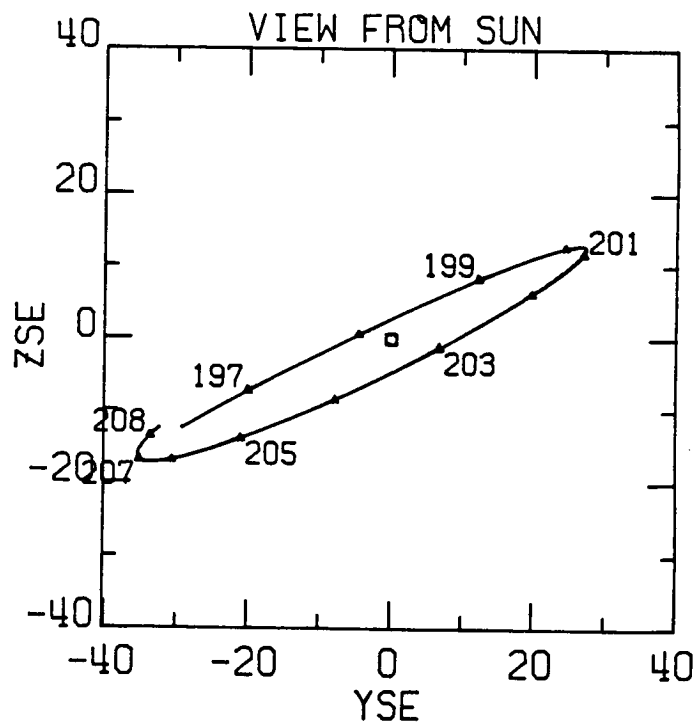
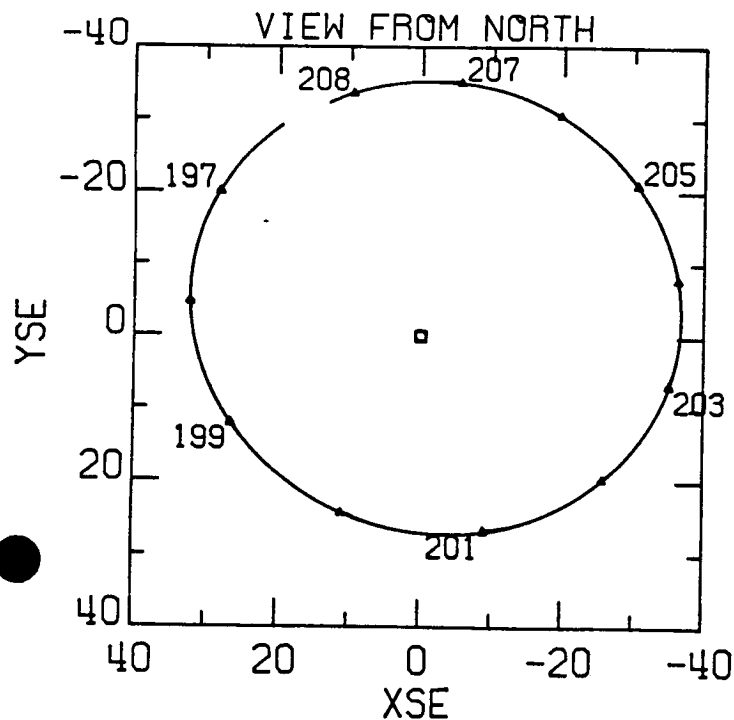
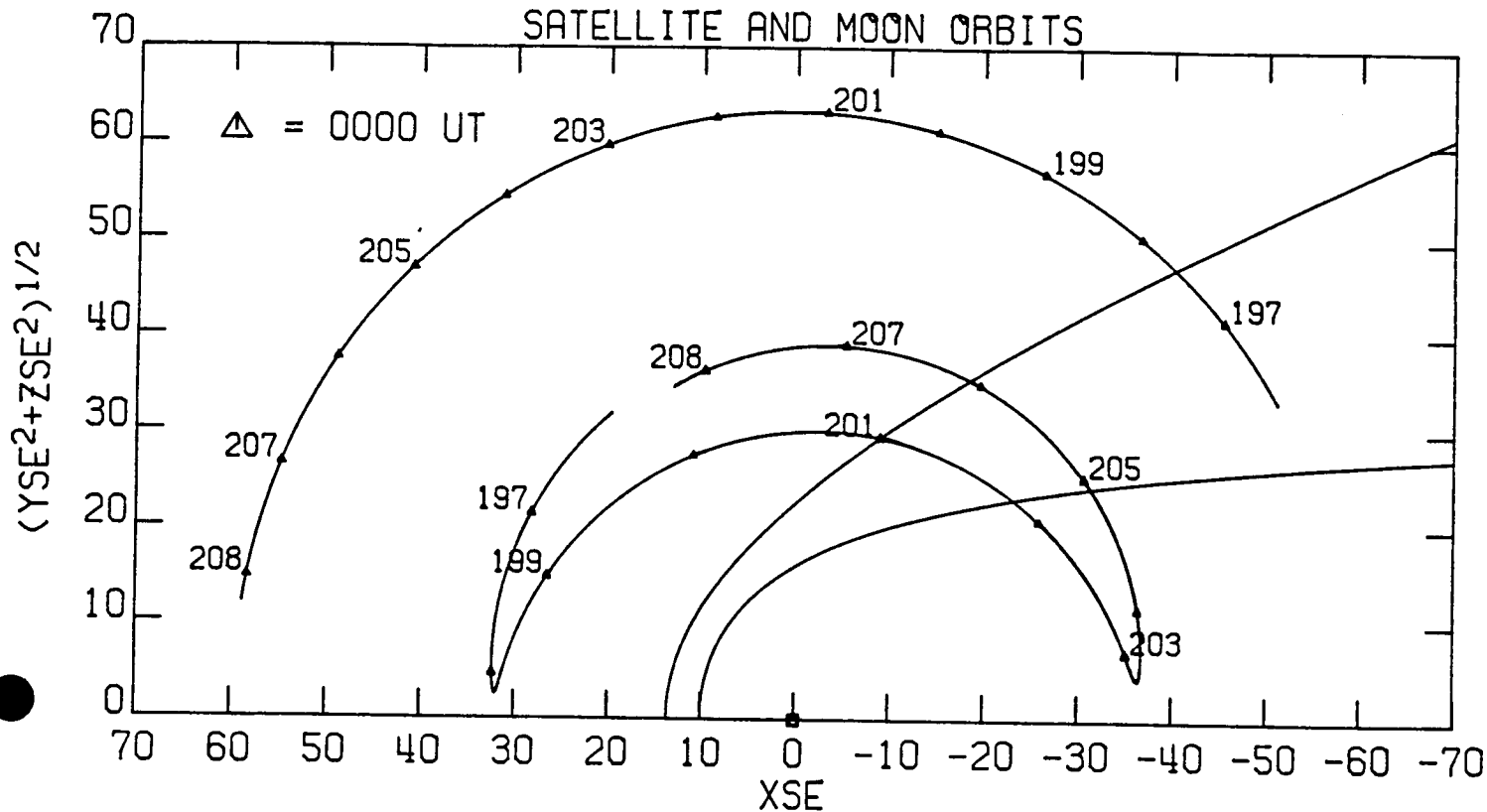
IMP 7 TRAJECTORY.

ASCENDING NODE 115

FROM JUL 14 TO JUL 26 1976

DAYS 196 THRU 208

SATELLITE AND MOON ORBITS

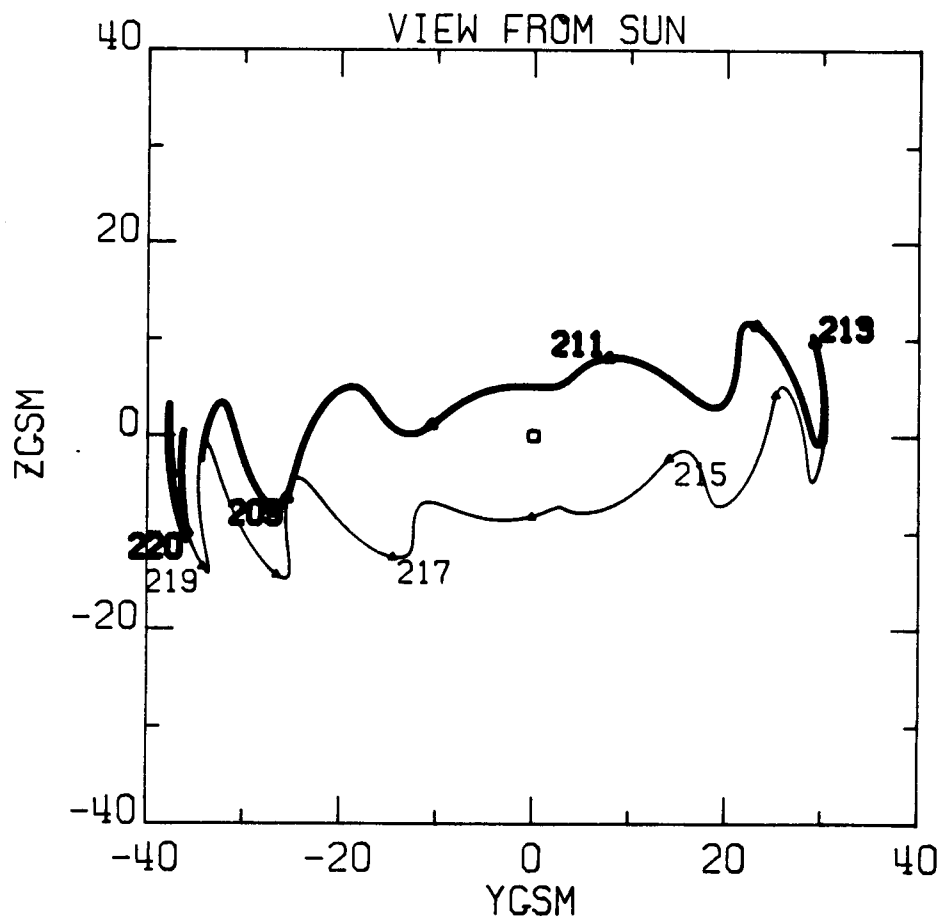
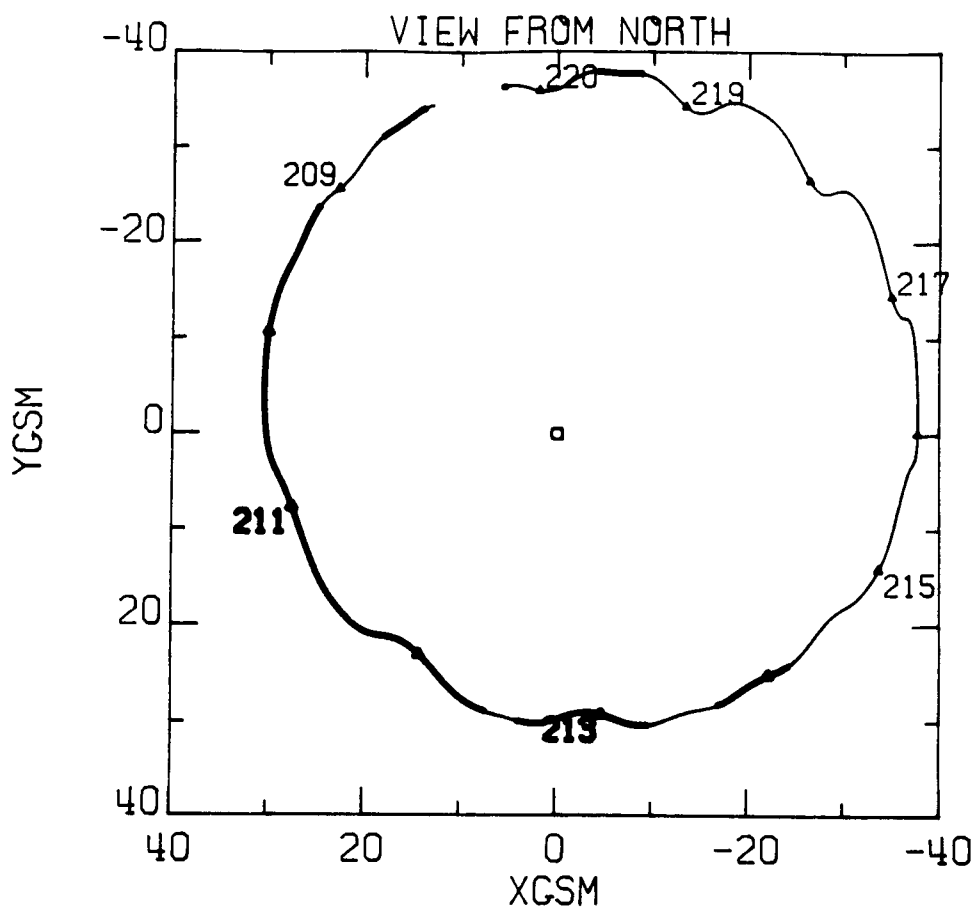


CSRTMP99

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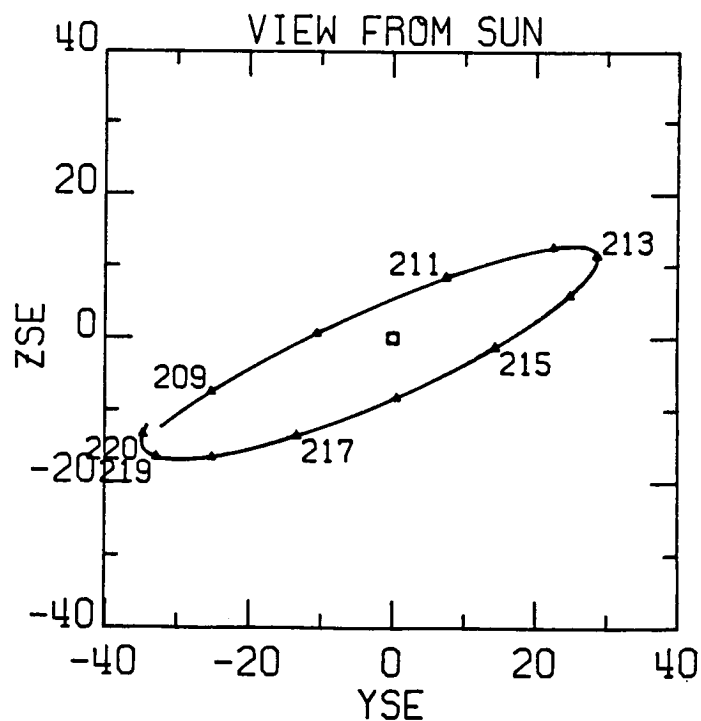
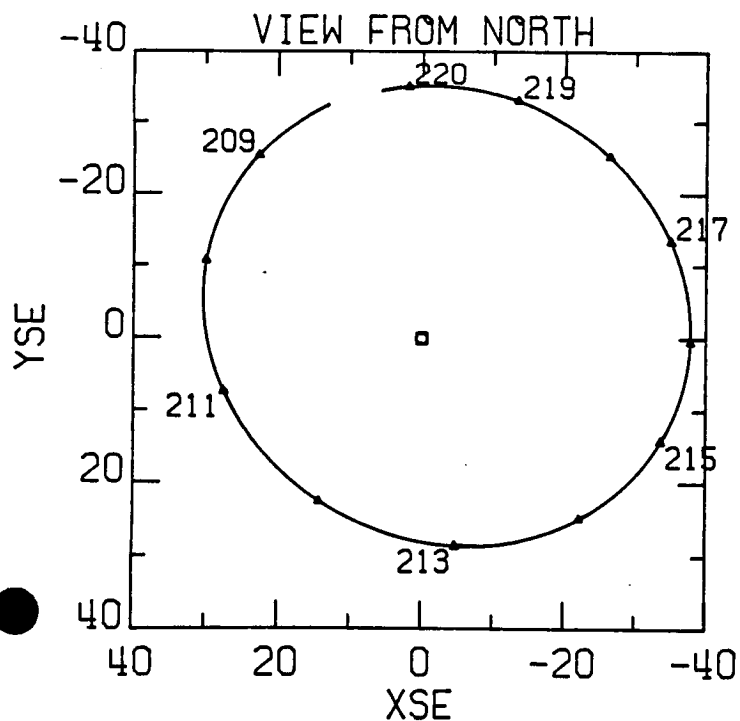
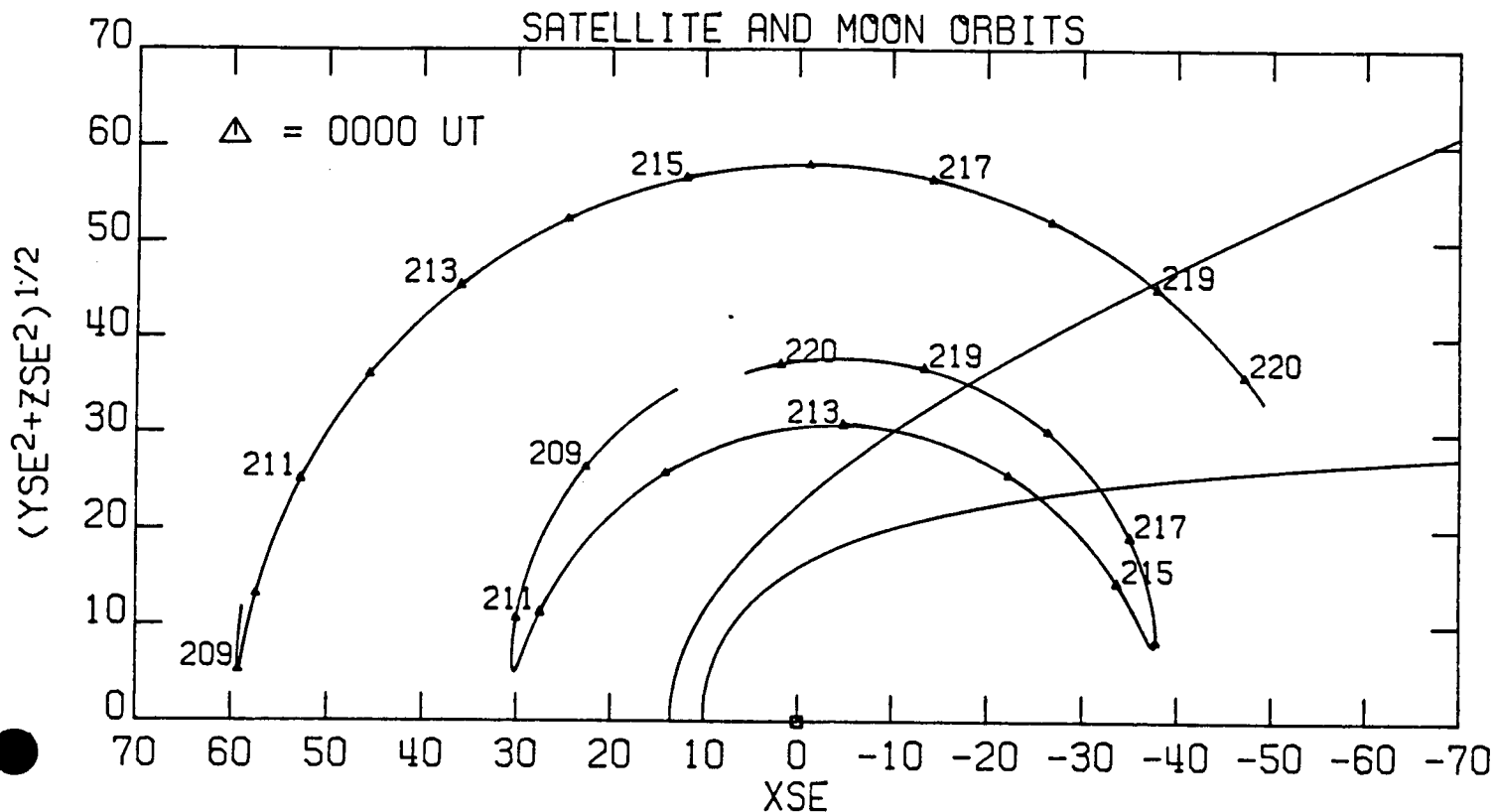
M.I.T. Center for Space Research

IMP 7 FROM JUL 26 TO AUG 7 1976

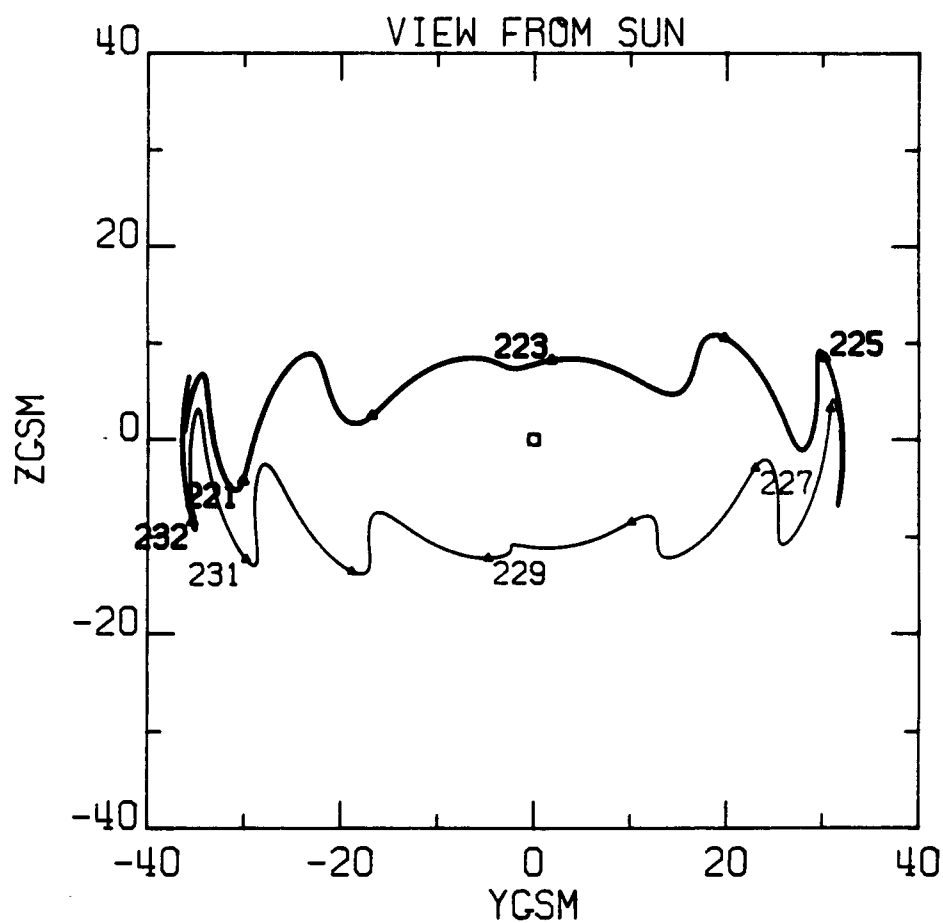
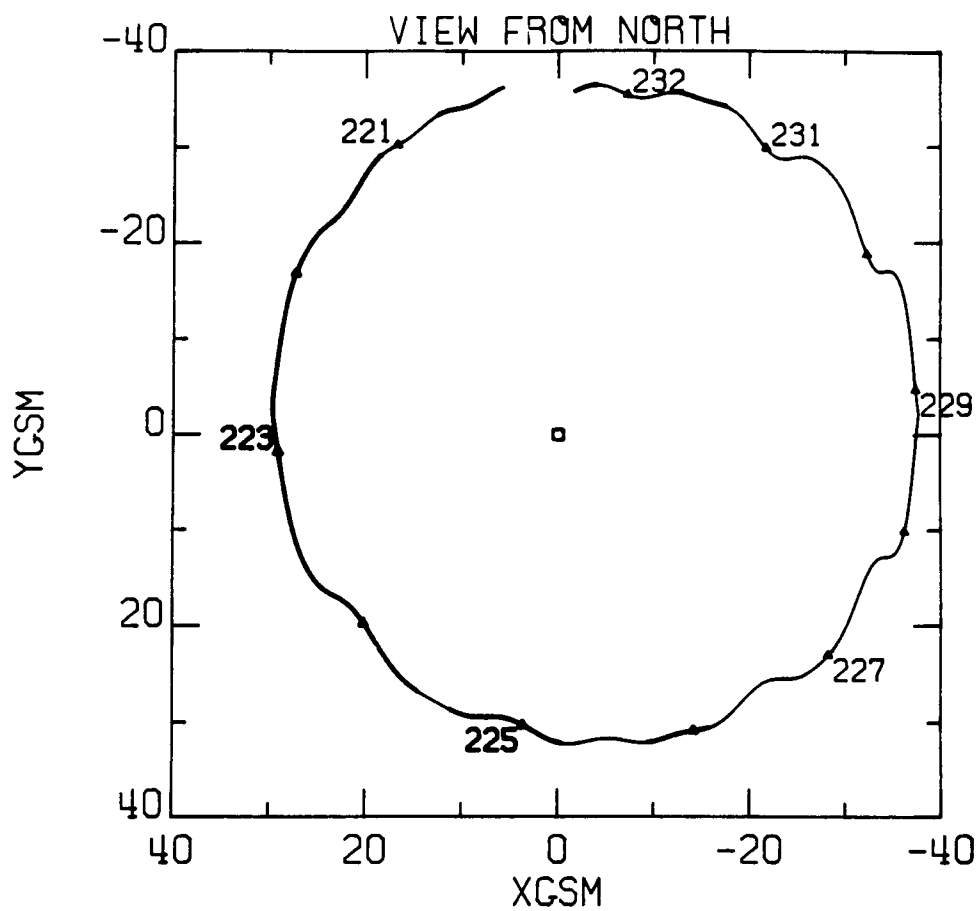


FROM JUL 26 TO AUG 7 1976

DAYS 208 THRU 220



IMP 7 FROM AUG 7 TO AUG 19 1976



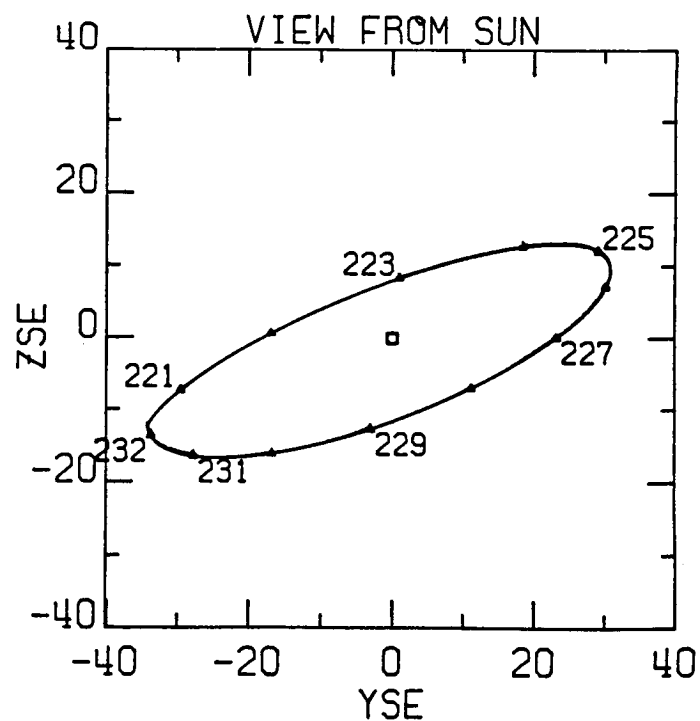
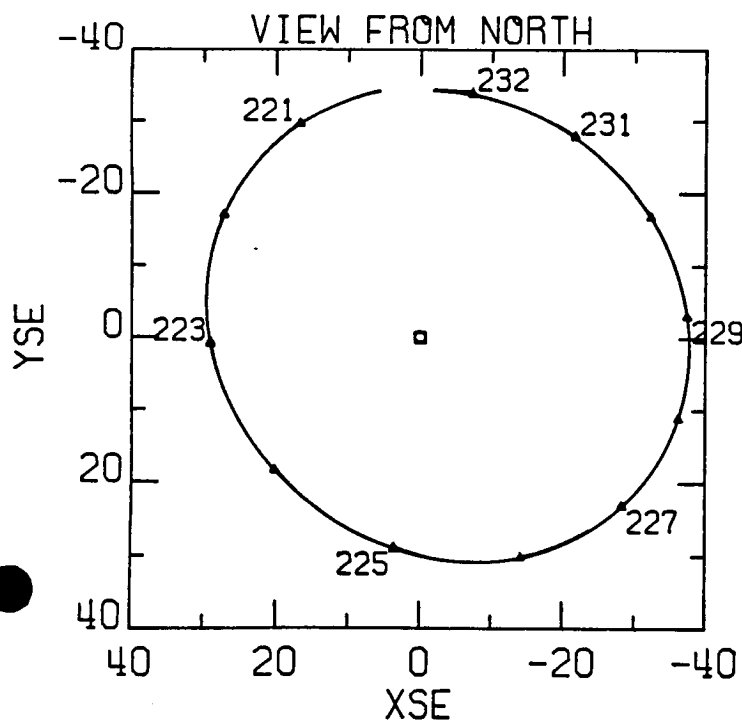
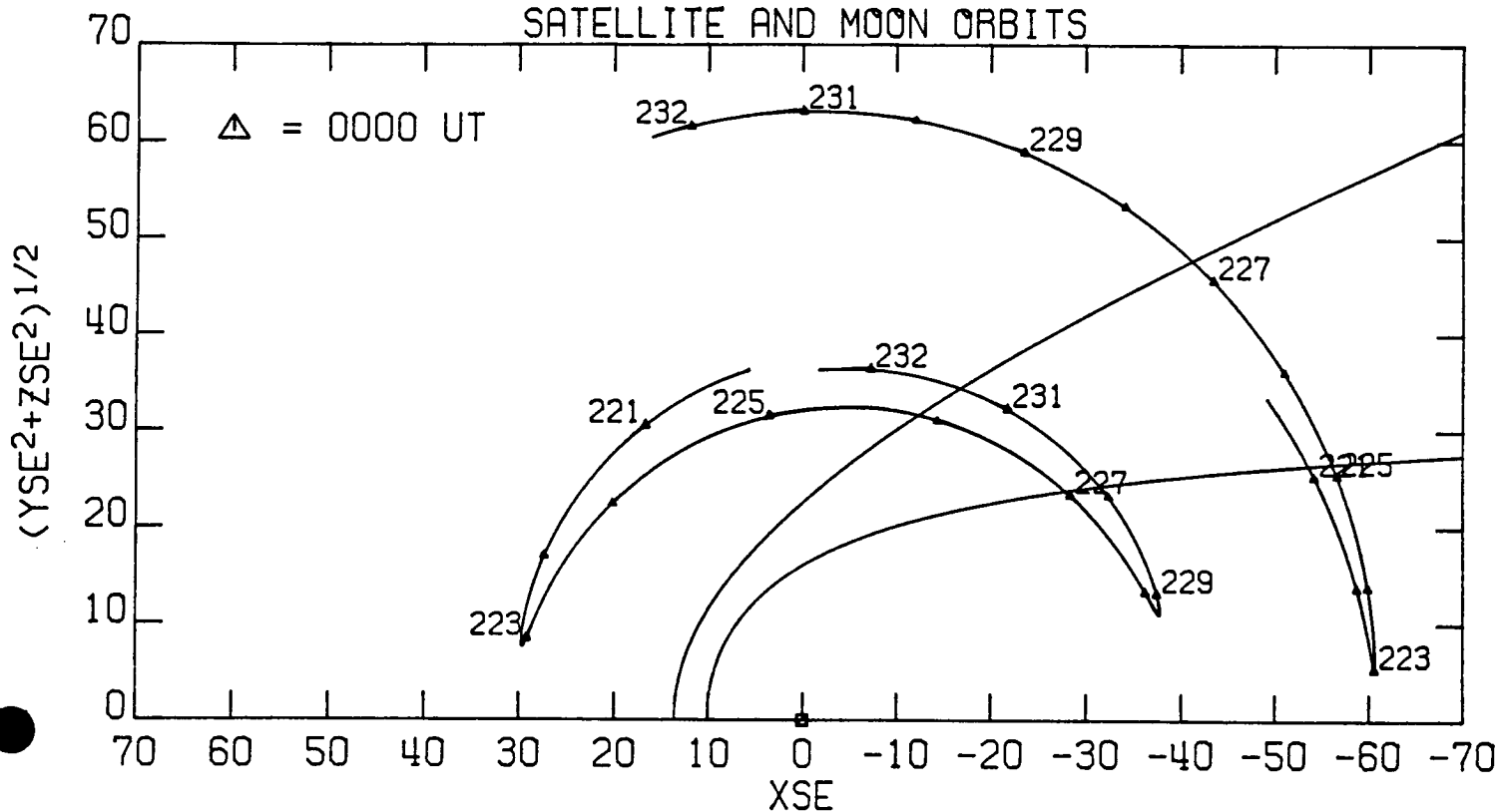
IMP 7 TRAJECTORY.

ASCENDING NODE 117

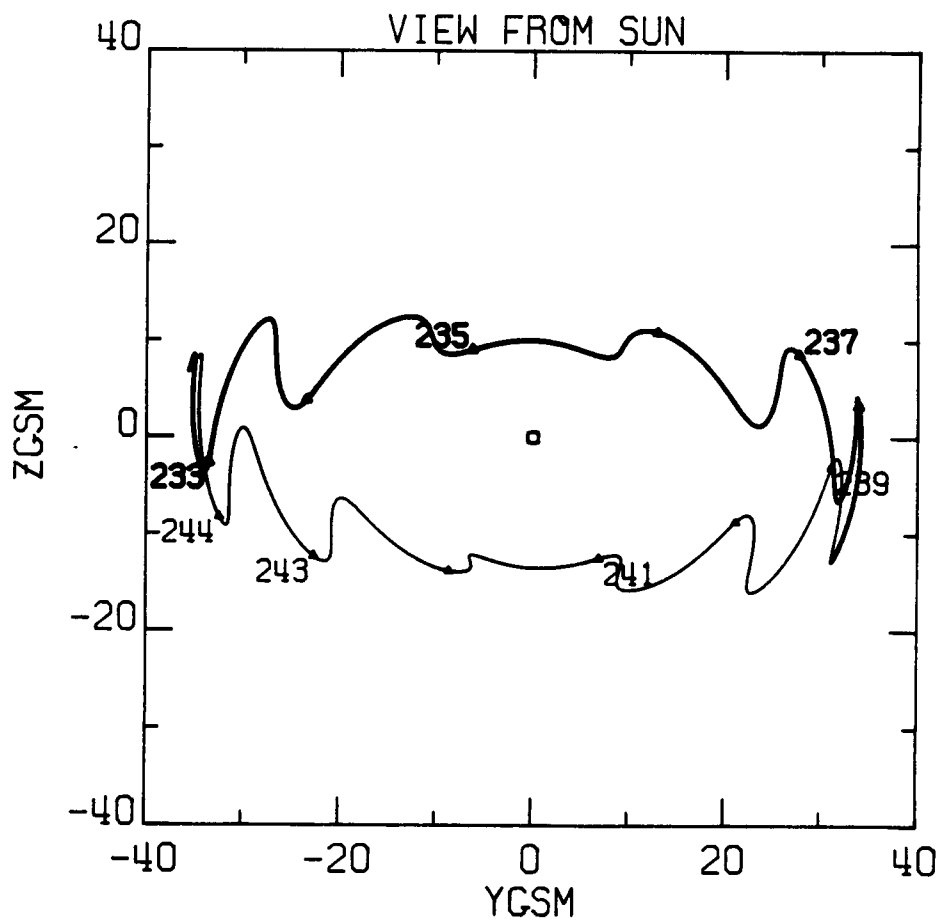
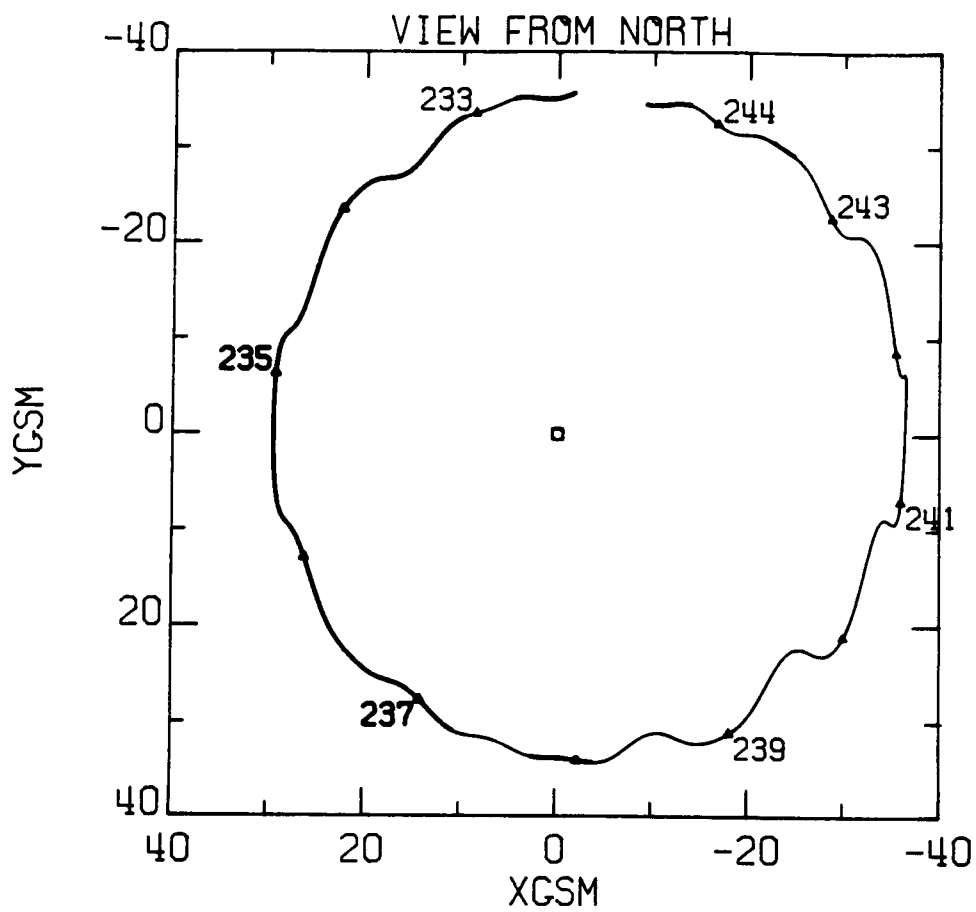
FROM AUG 7 TO AUG 19 1976

DAYS 220 THRU 232

SATELLITE AND MOON ORBITS

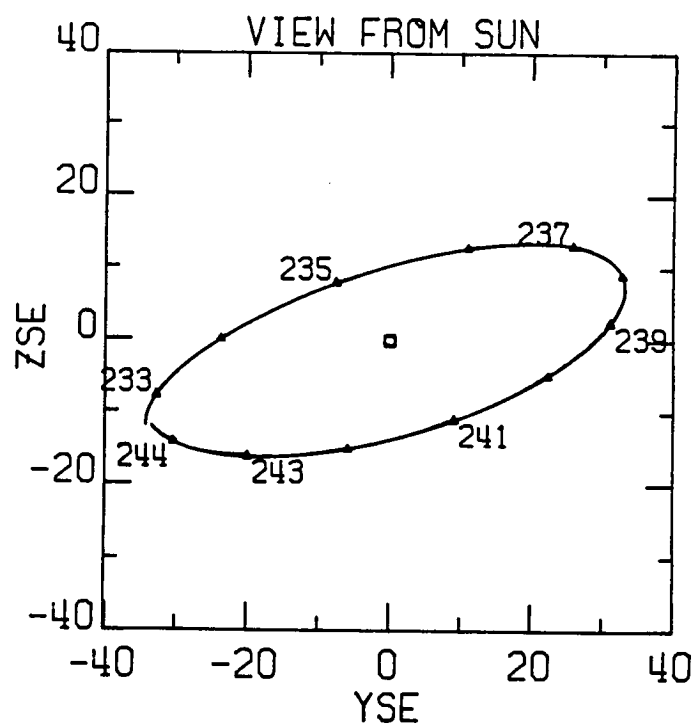
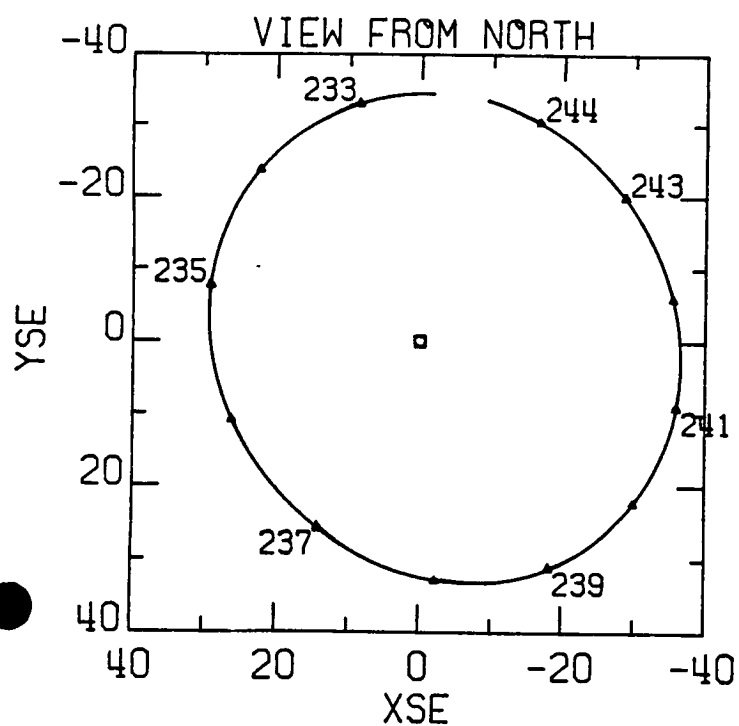
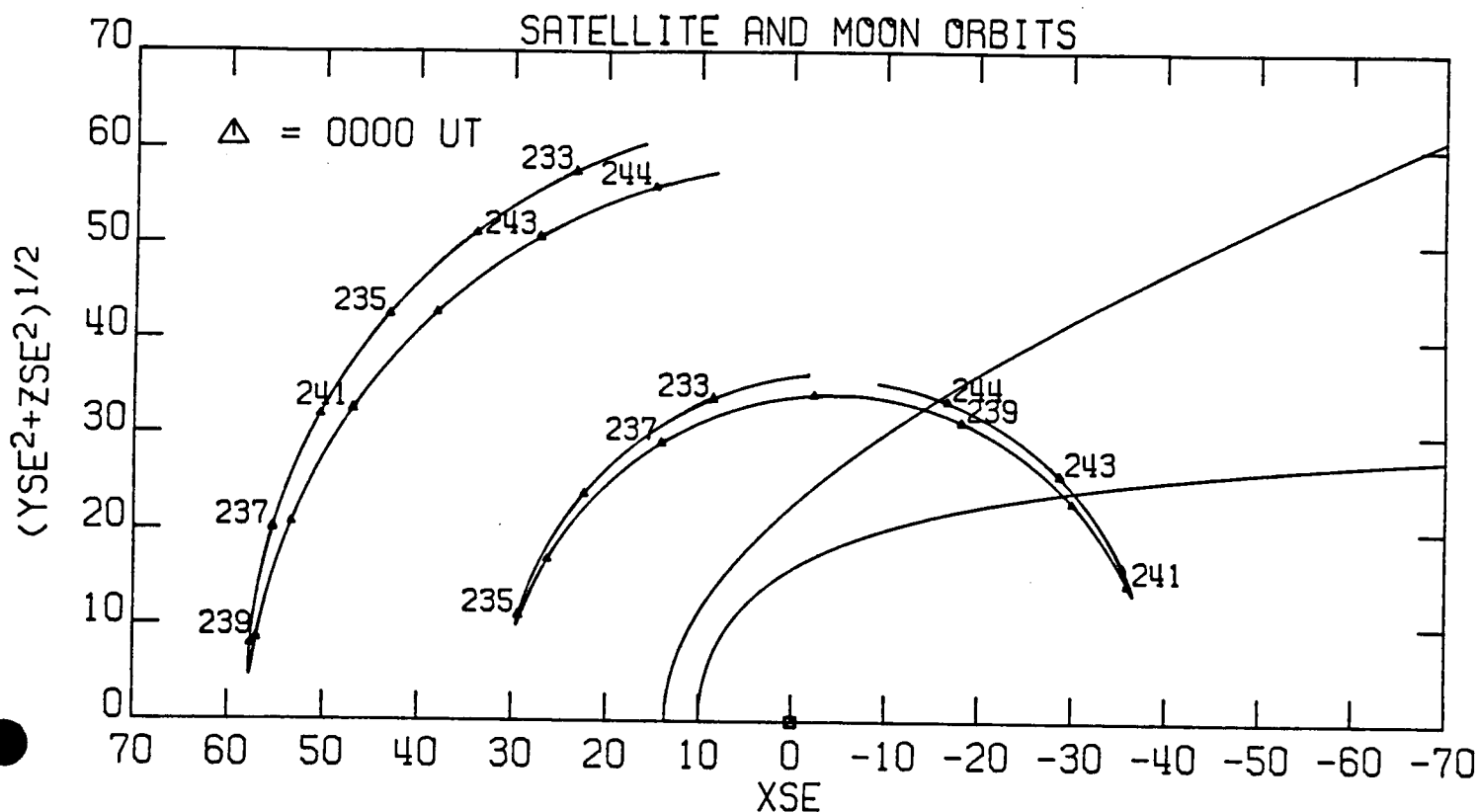


IMP 7 FROM AUG 19 TO AUG 31 1976

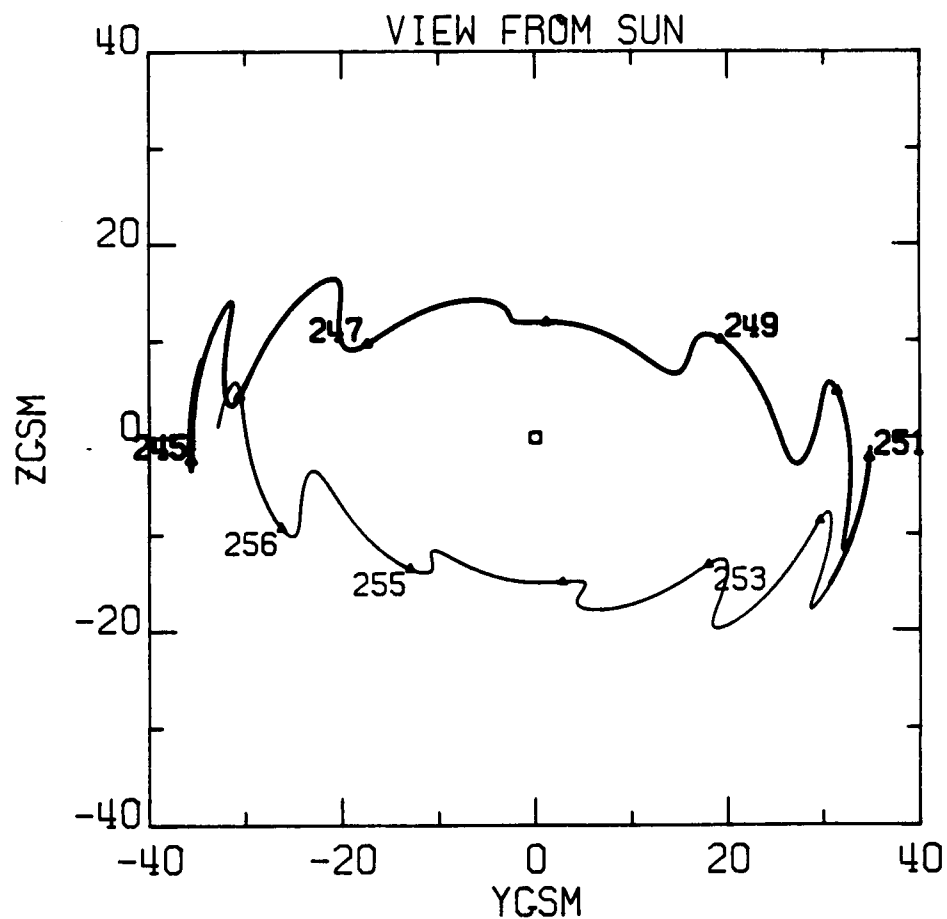
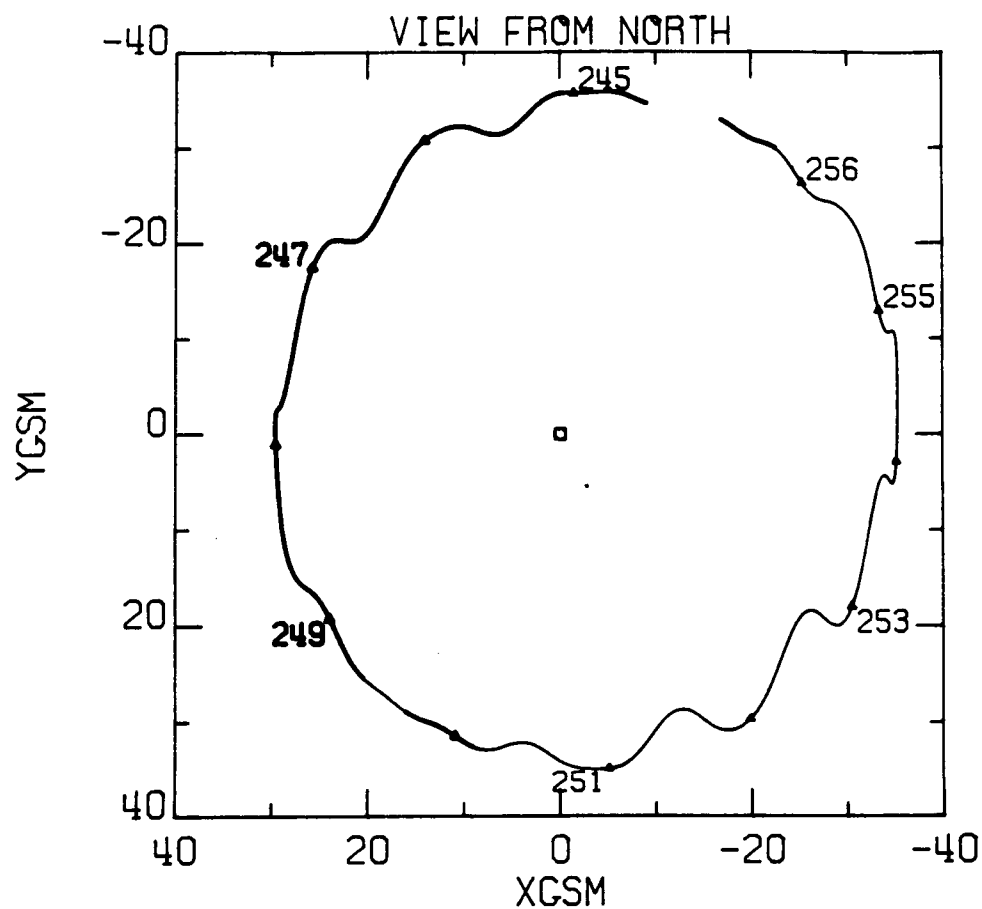


FROM AUG 19 TO AUG 31 1976

DAYS 232 THRU 244

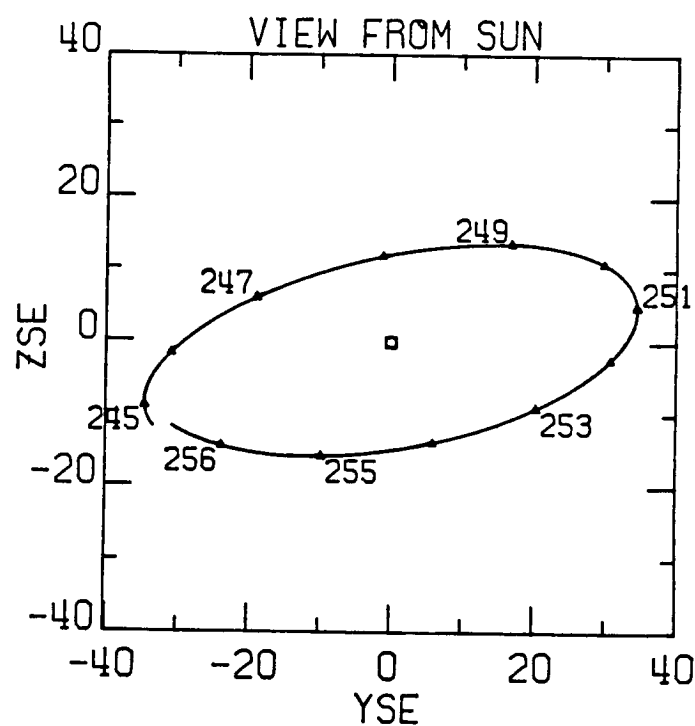
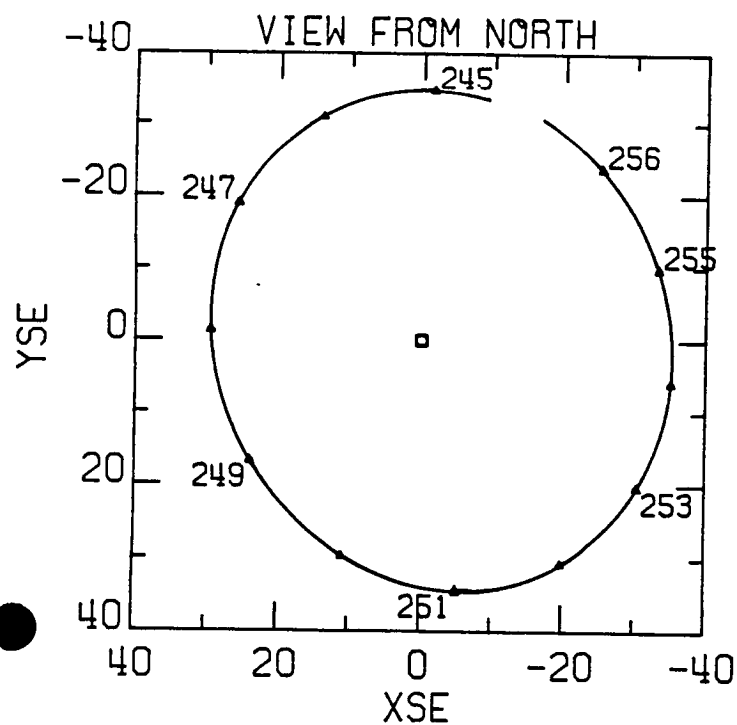
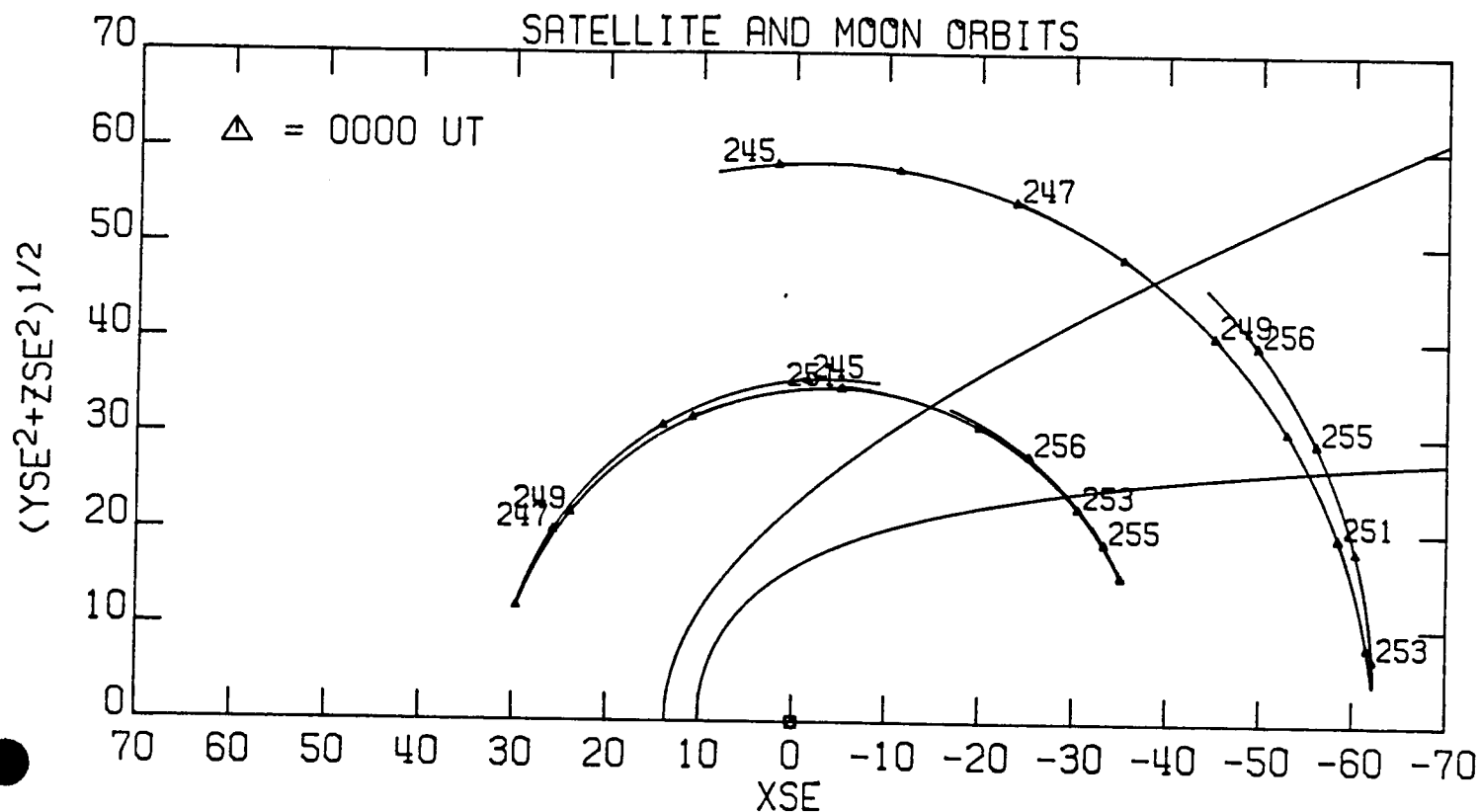


IMP 7 FROM AUG 31 TO SEP 12 1976

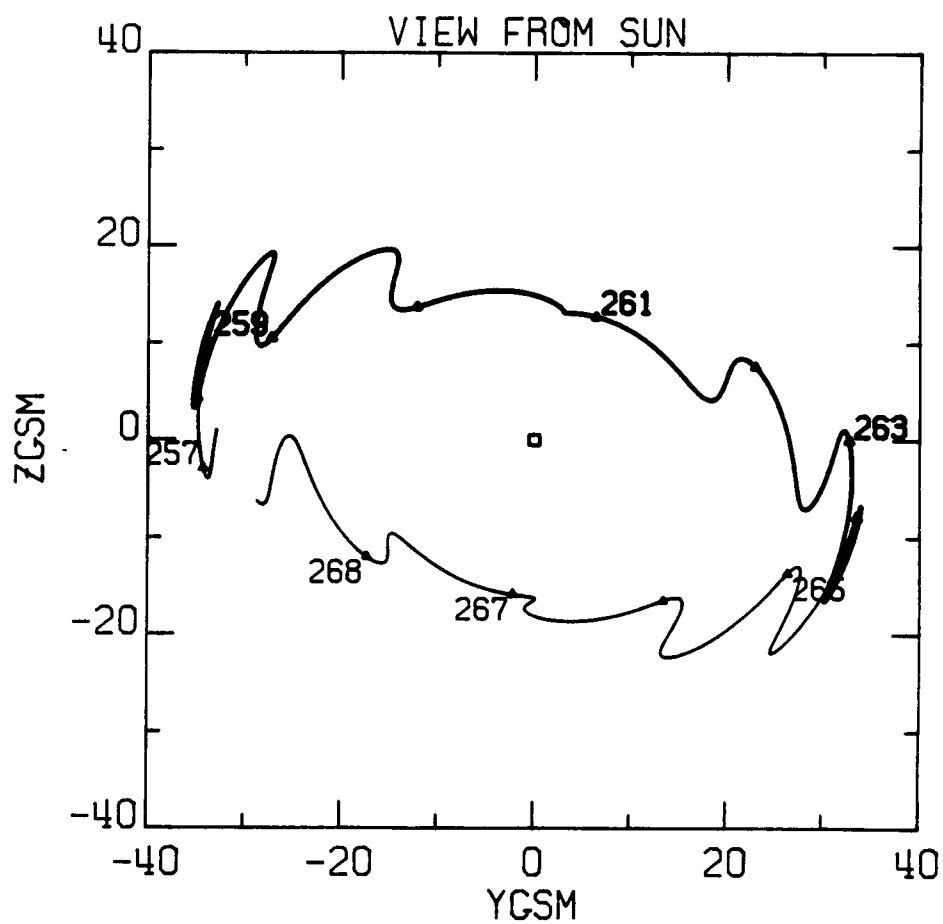
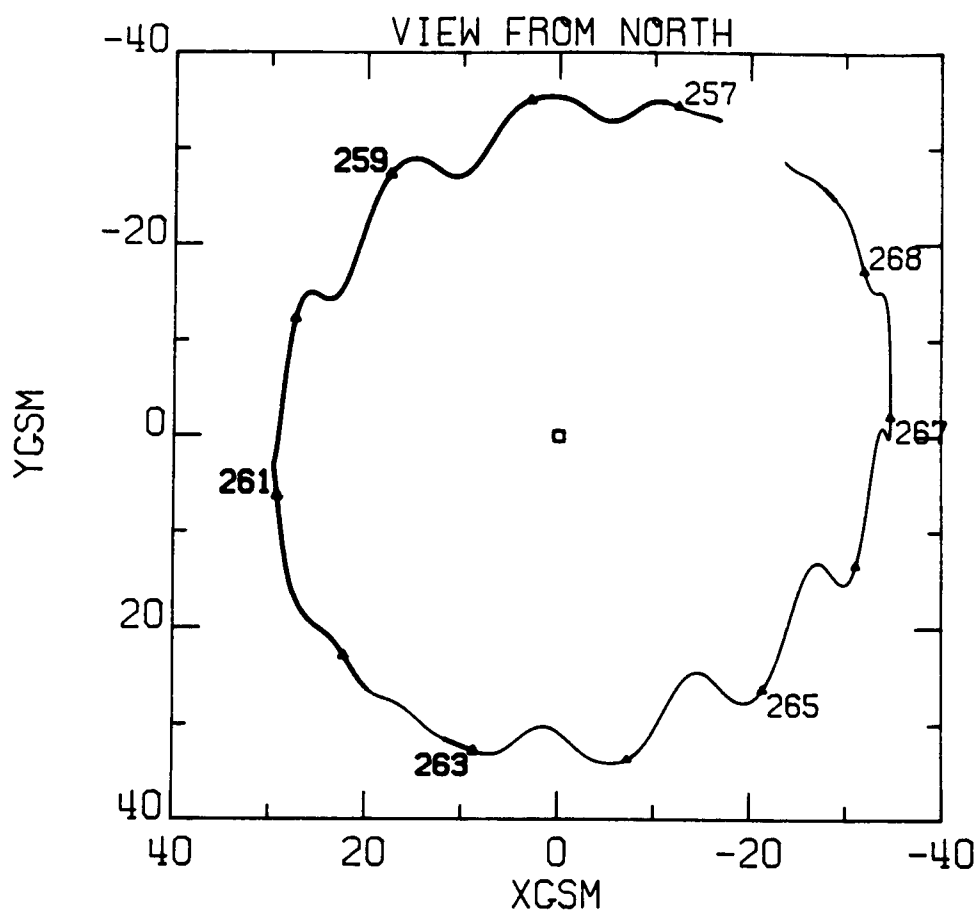


FROM AUG 31 TO SEP 12 1976

DAYS 244 THRU 256



IMP 7 FROM SEP 12 TO SEP 24 1976

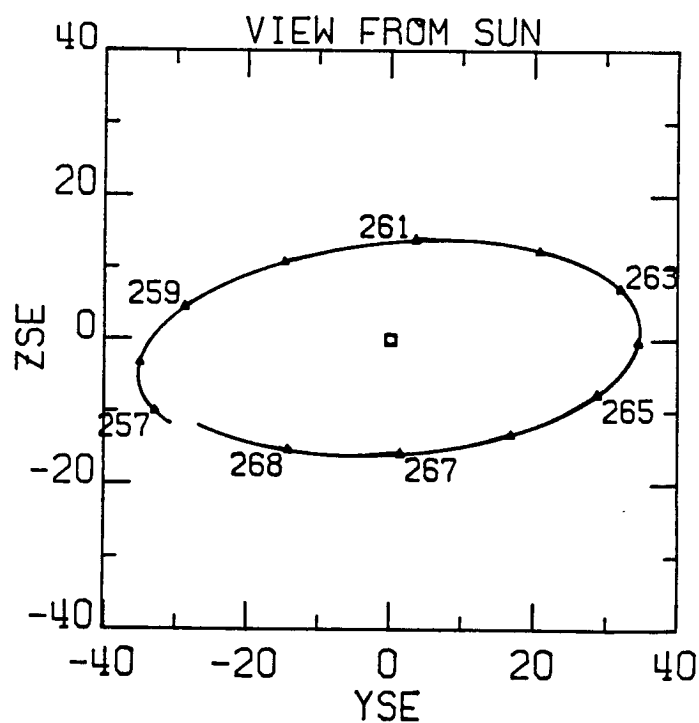
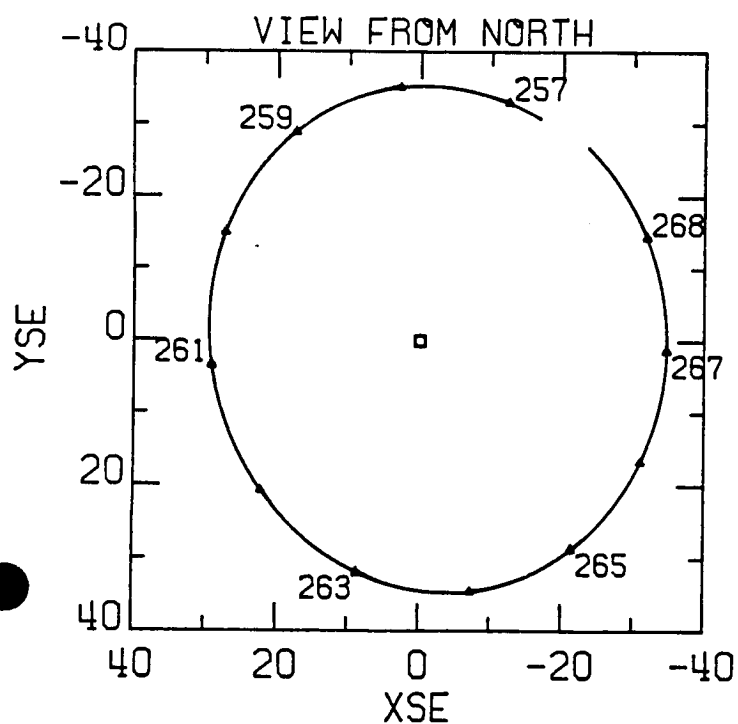
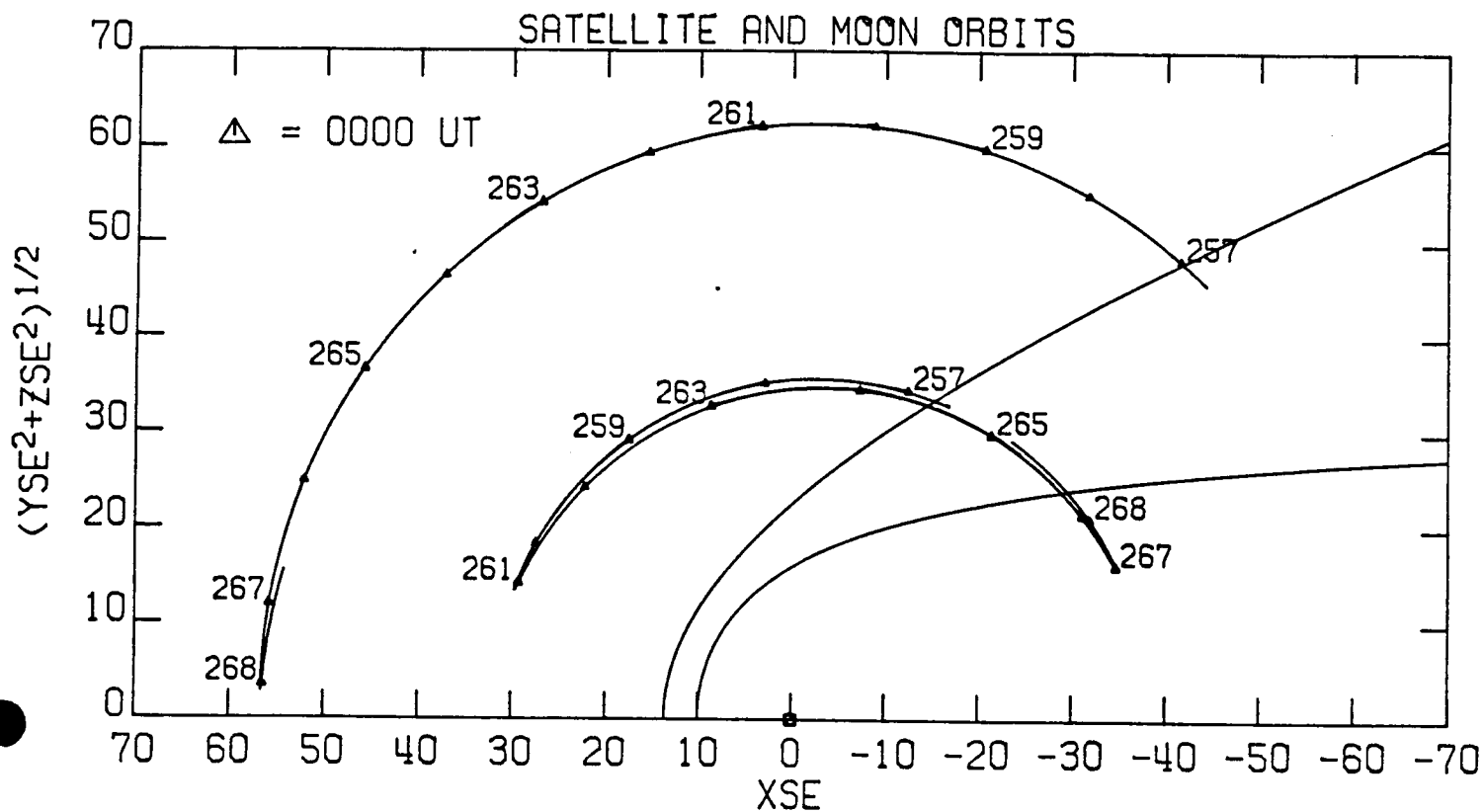


IMP 7 TRAJECTORY.

ASCENDING NODE 120

FROM SEP 12 TO SEP 24 1976

DAYS 256 THRU 268

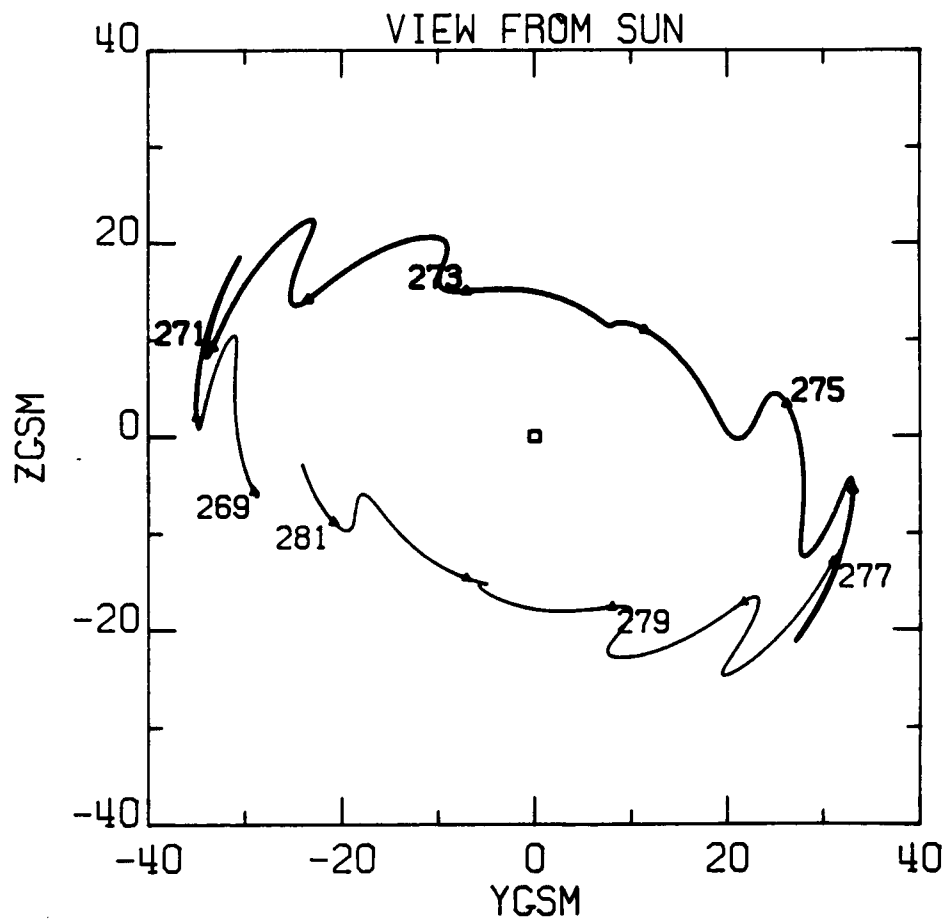
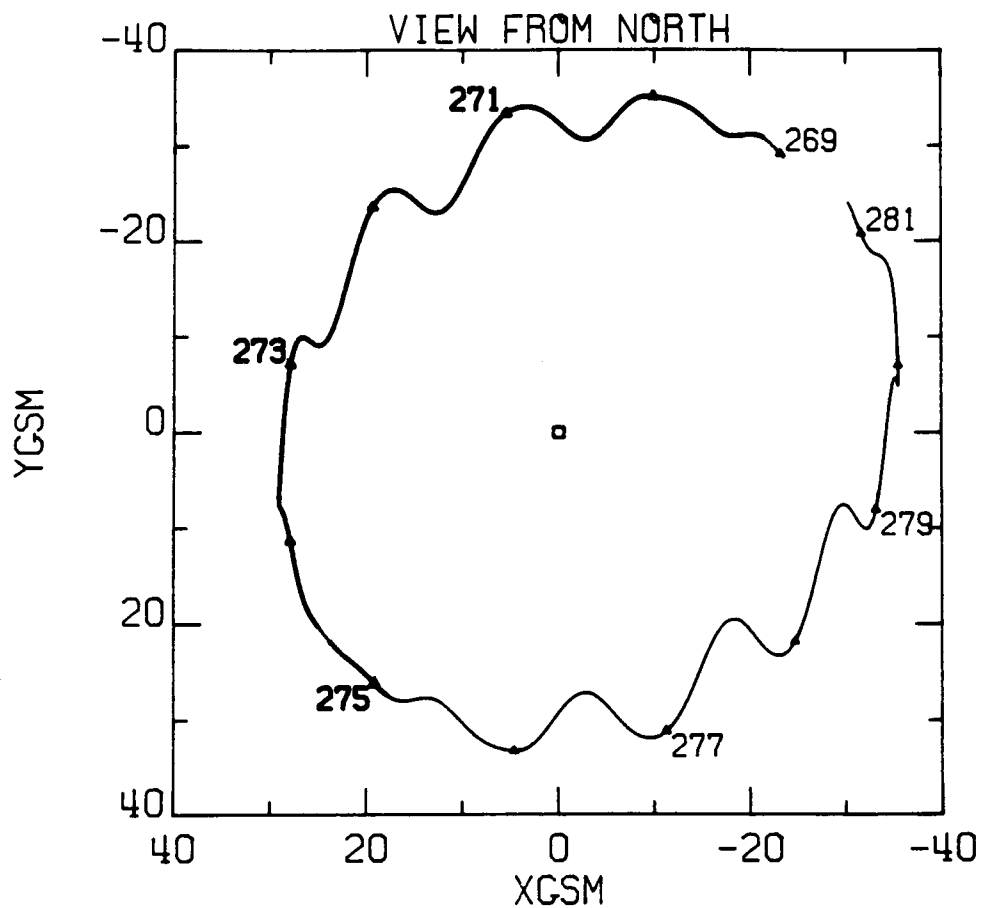


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IMP 7 FROM SEP 24 TO OCT 7 1976



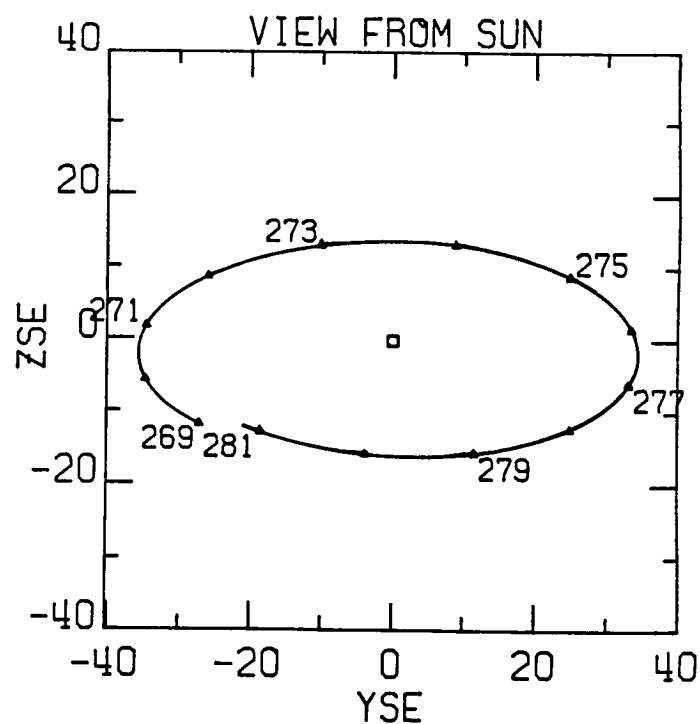
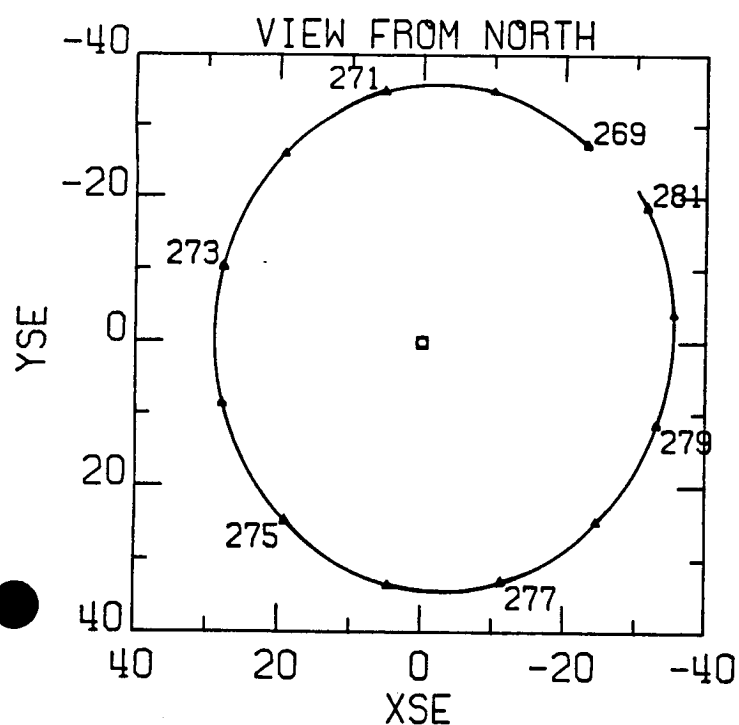
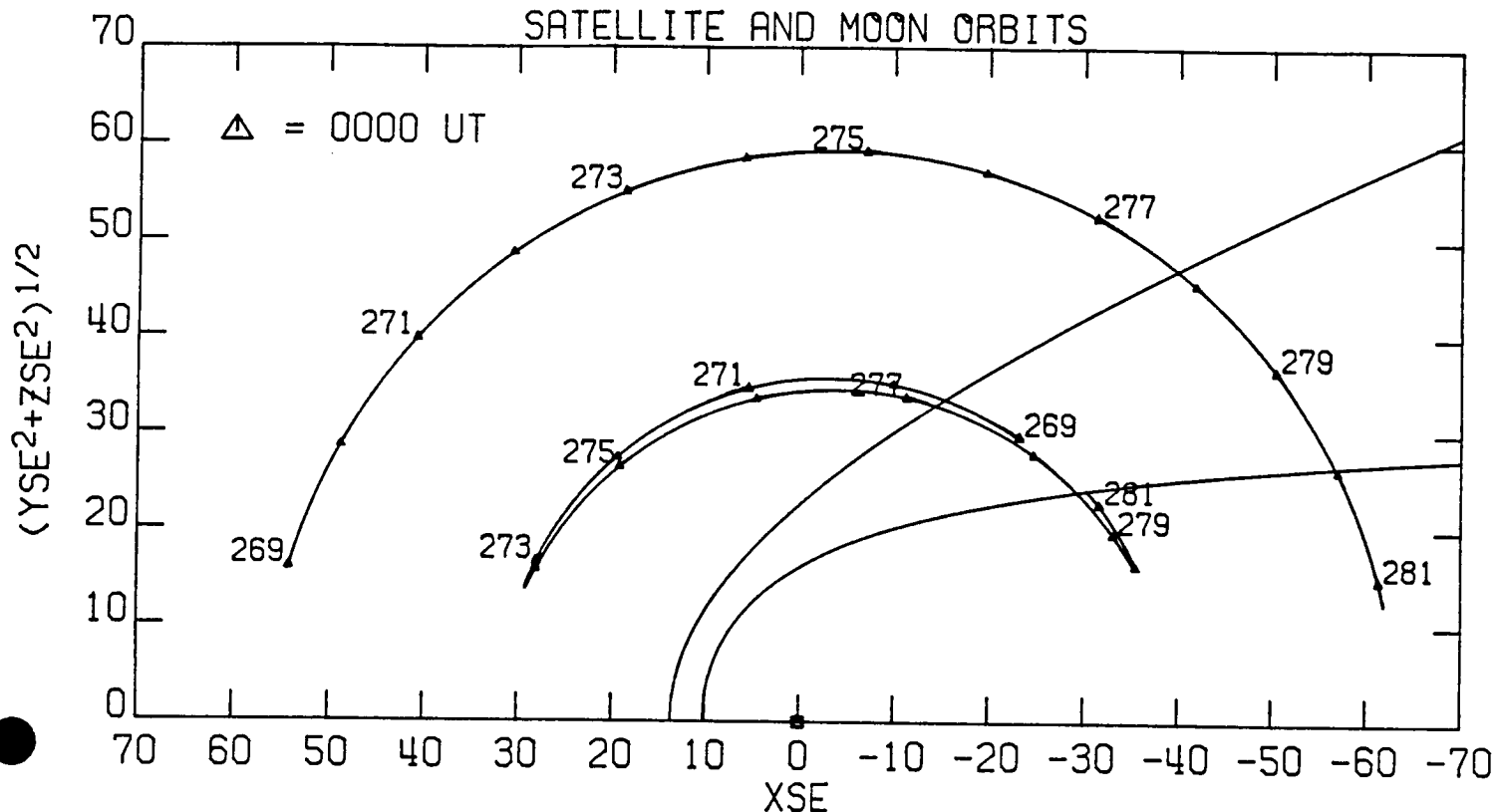
IMP 7 TRAJECTORY.

ASCENDING NODE 121

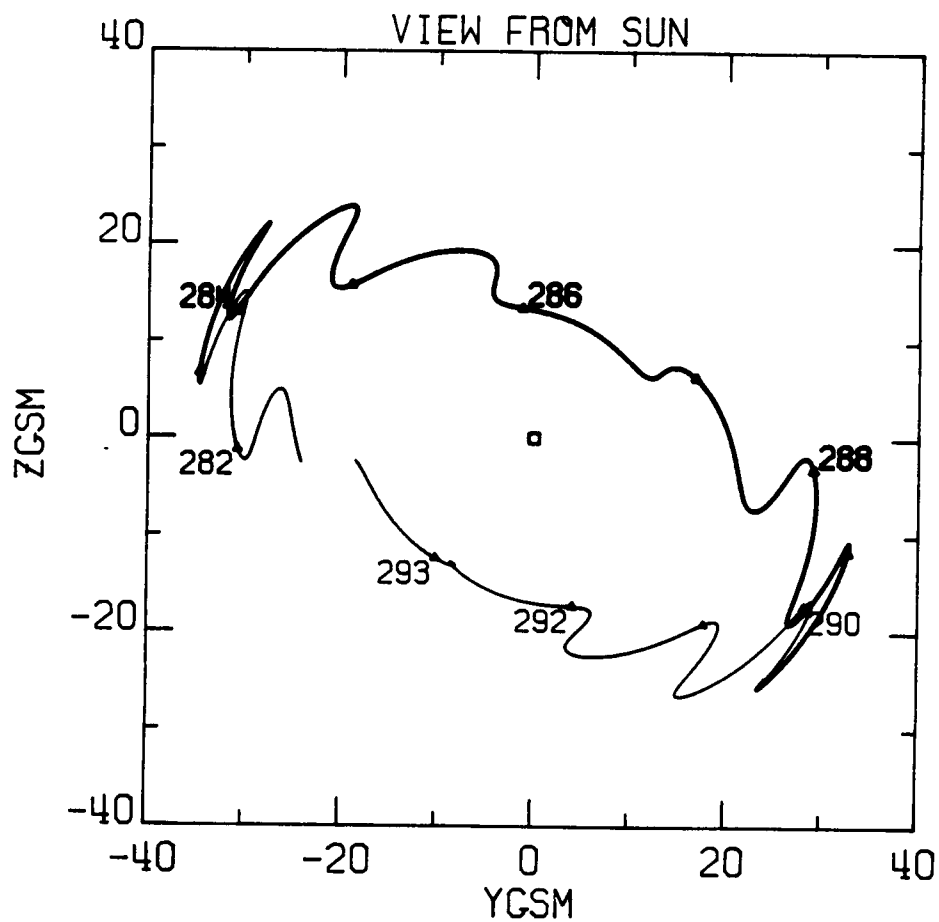
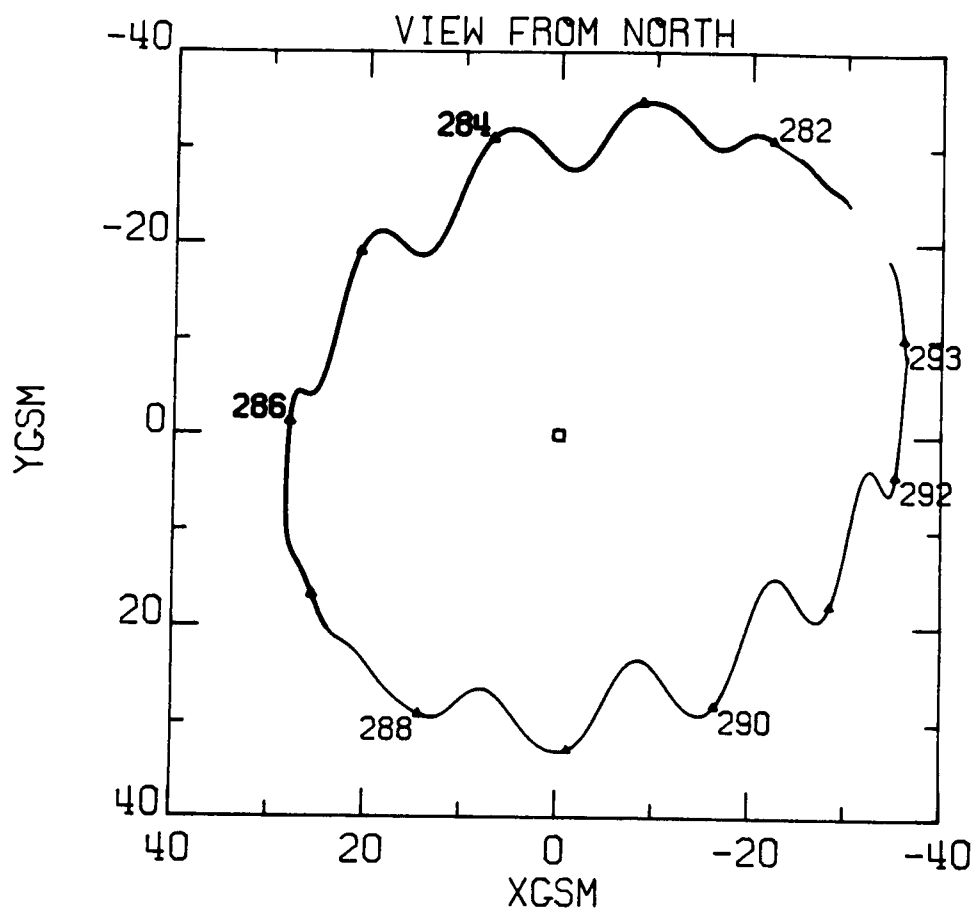
FROM SEP 24 TO OCT 7 1976

DAYS 268 THRU 281

SATELLITE AND MOON ORBITS



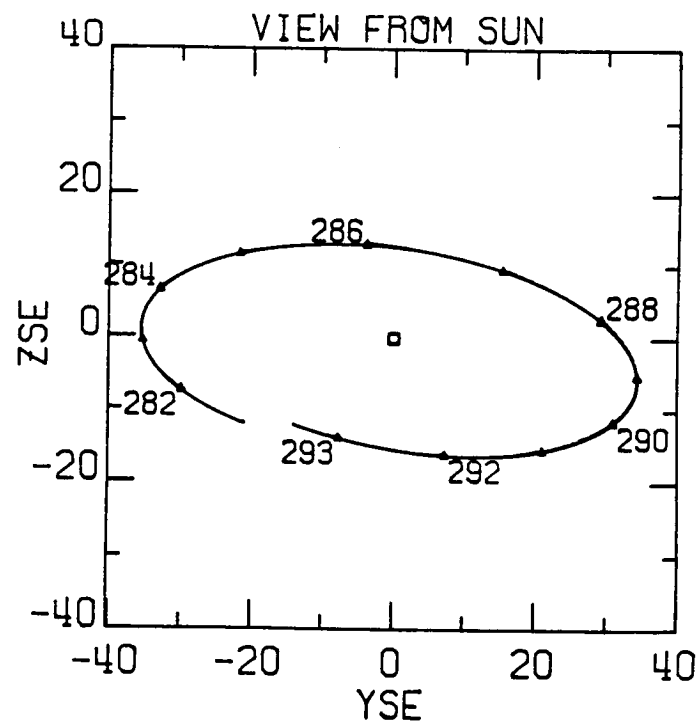
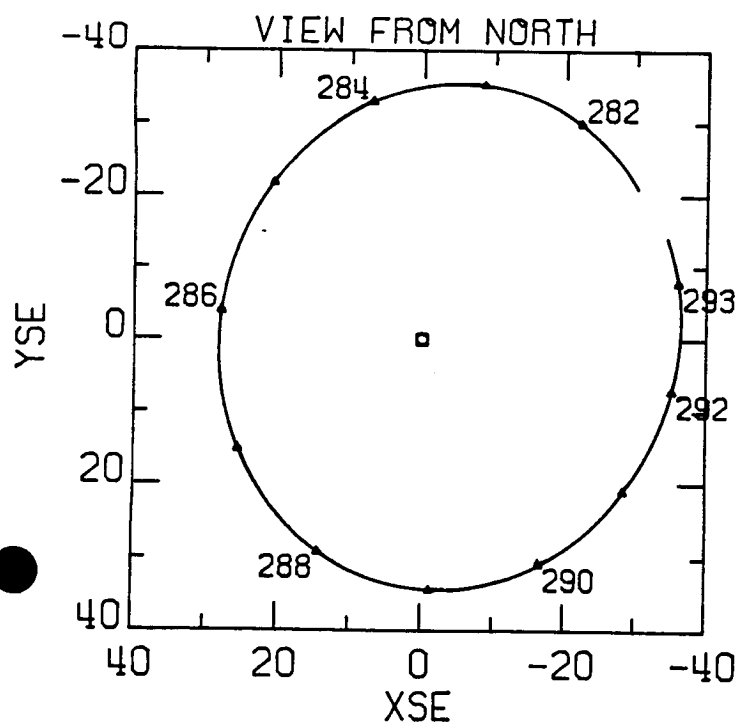
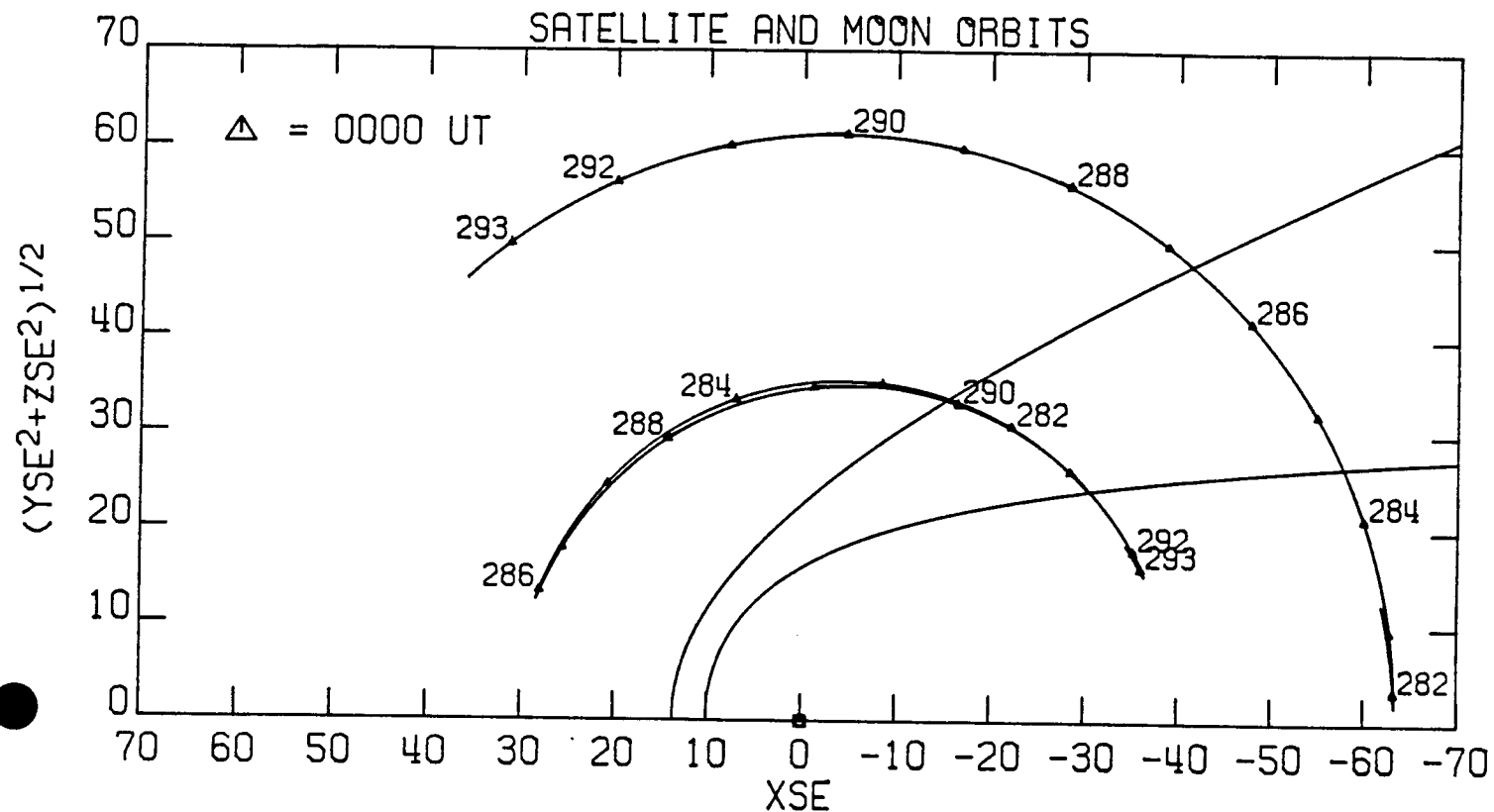
IMP 7 FROM OCT 7 TO OCT 19 1976



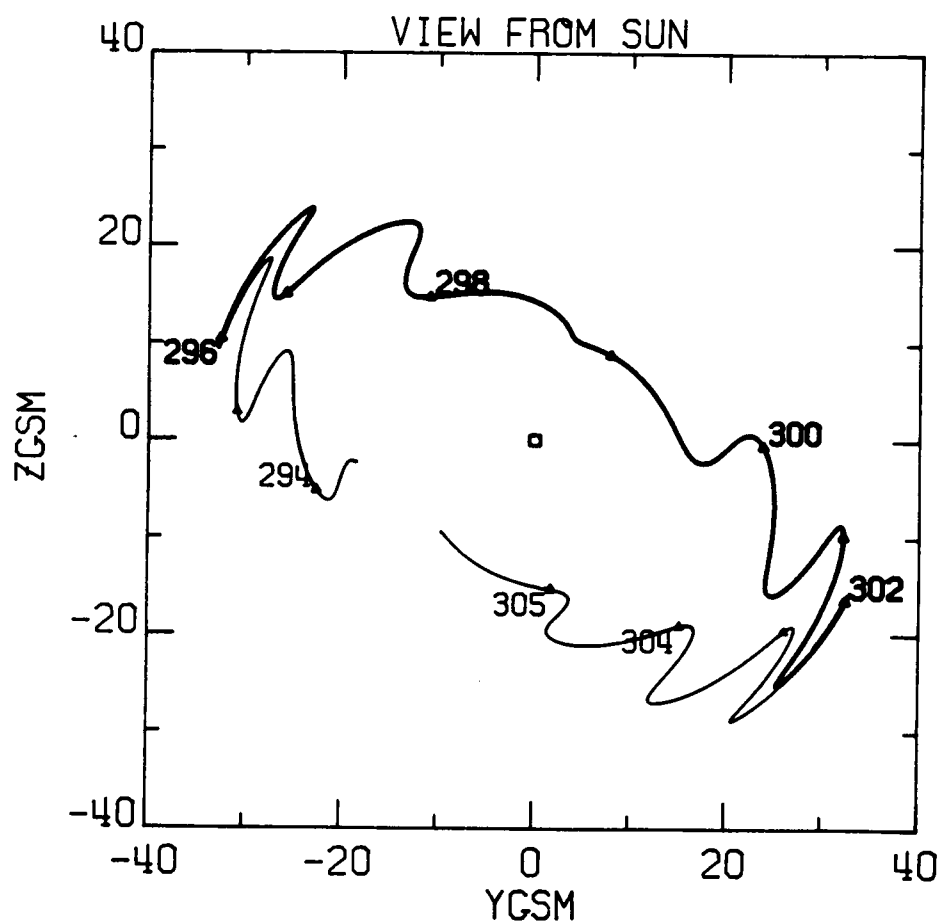
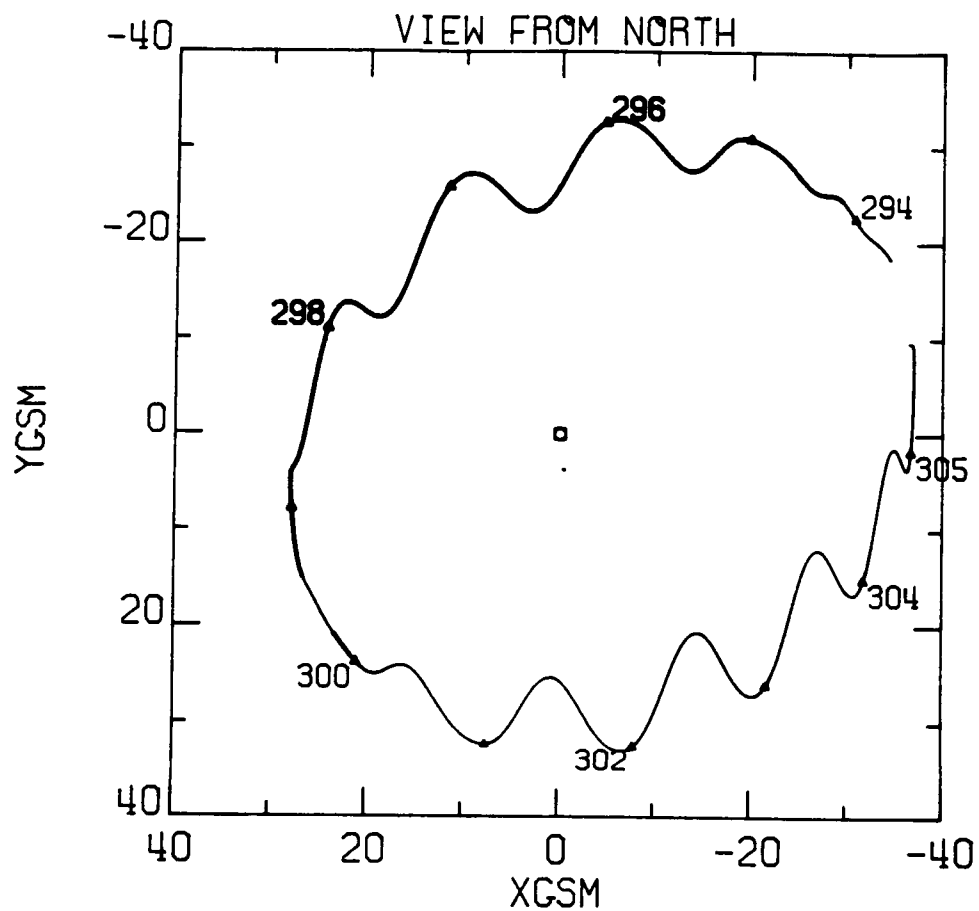
IMP 7 TRAJECTORY. ASCENDING NODE 122

FROM OCT 7 TO OCT 19 1976

DAYS 281 THRU 293



IMP 7 FROM OCT 19 TO OCT 31 1976

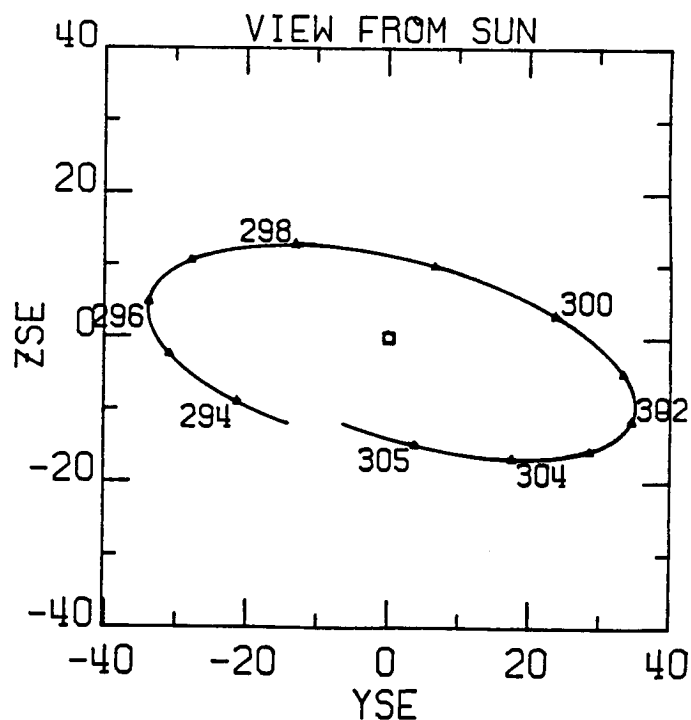
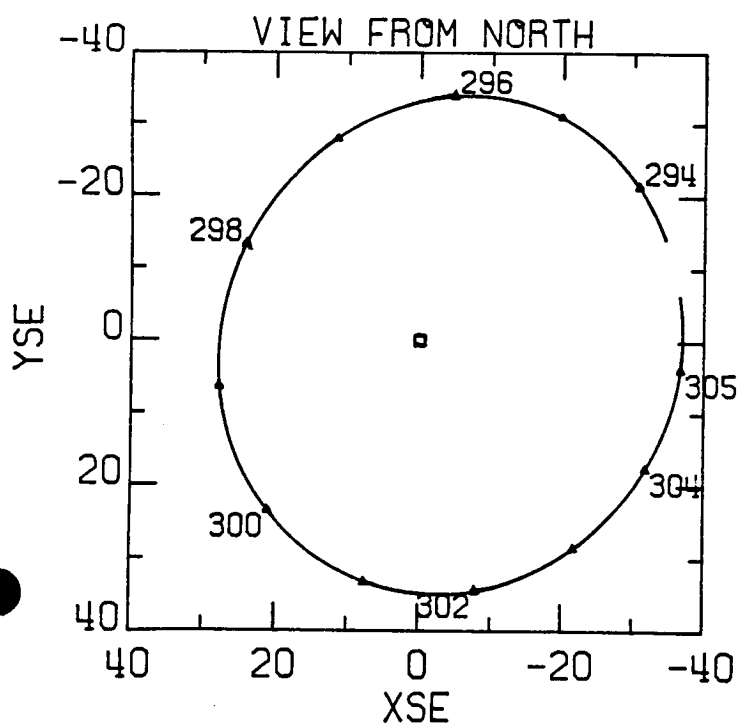
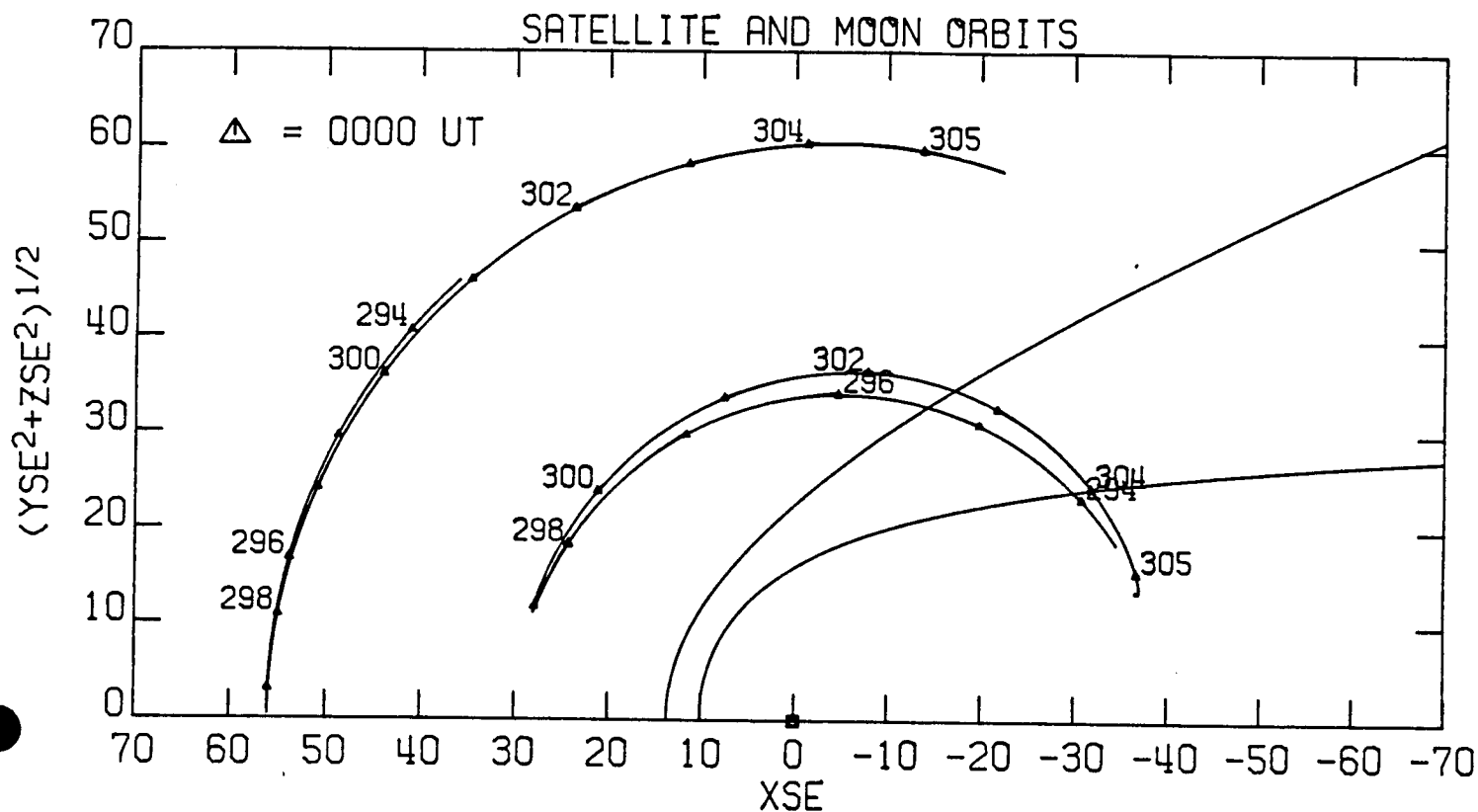


IMP 7 TRAJECTORY.

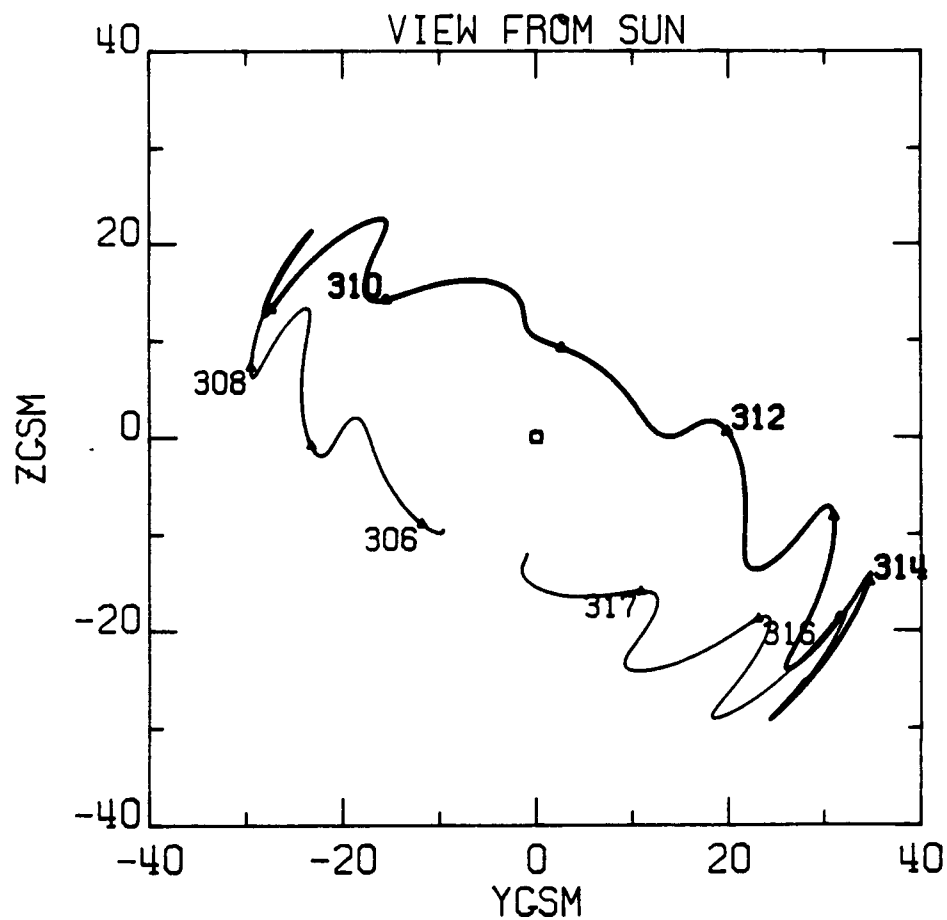
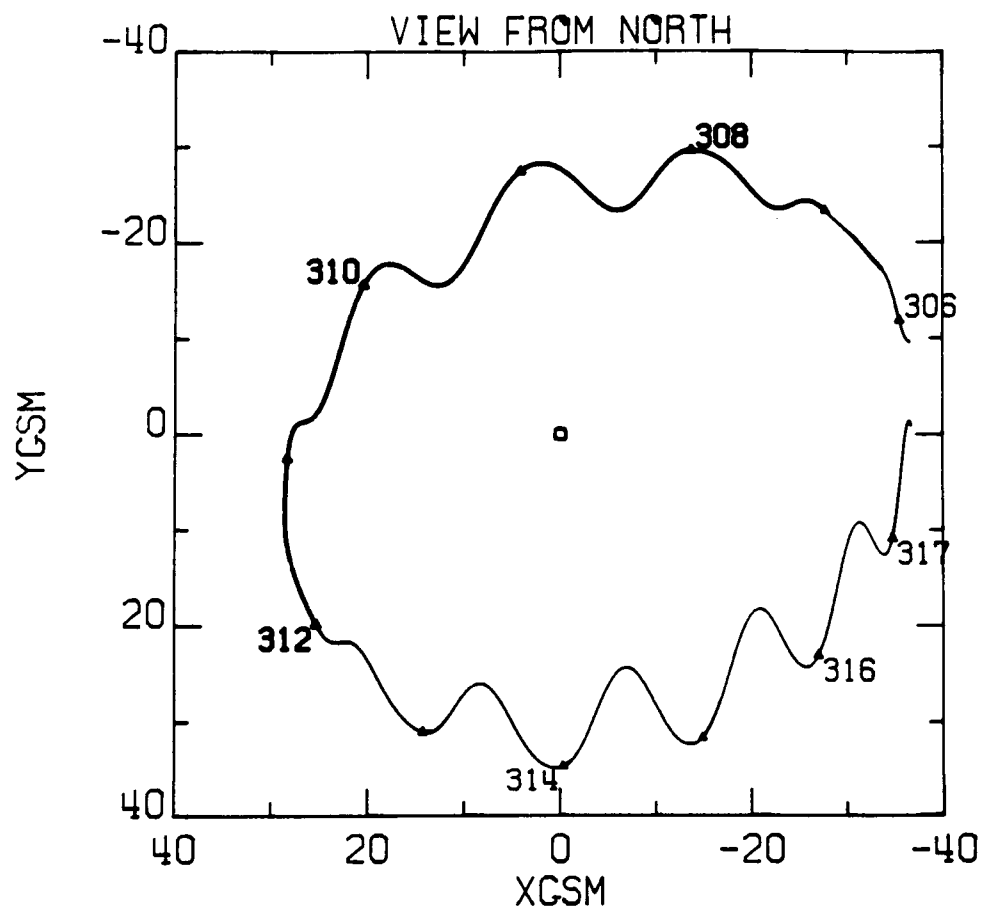
ASCENDING NODE 123

FROM OCT 19 TO OCT 31 1976

DAYS 293 THRU 305



IMP 7 FROM OCT 31 TO NOV 12 1976

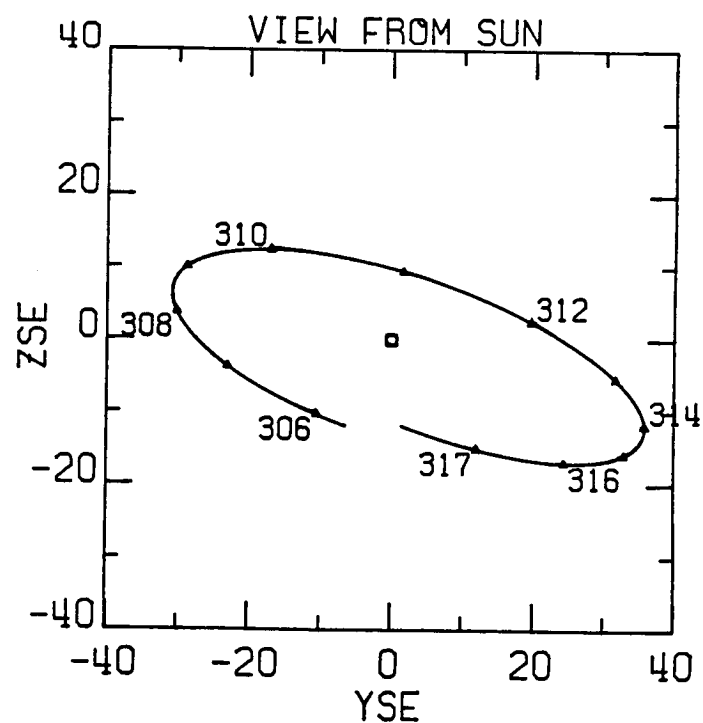
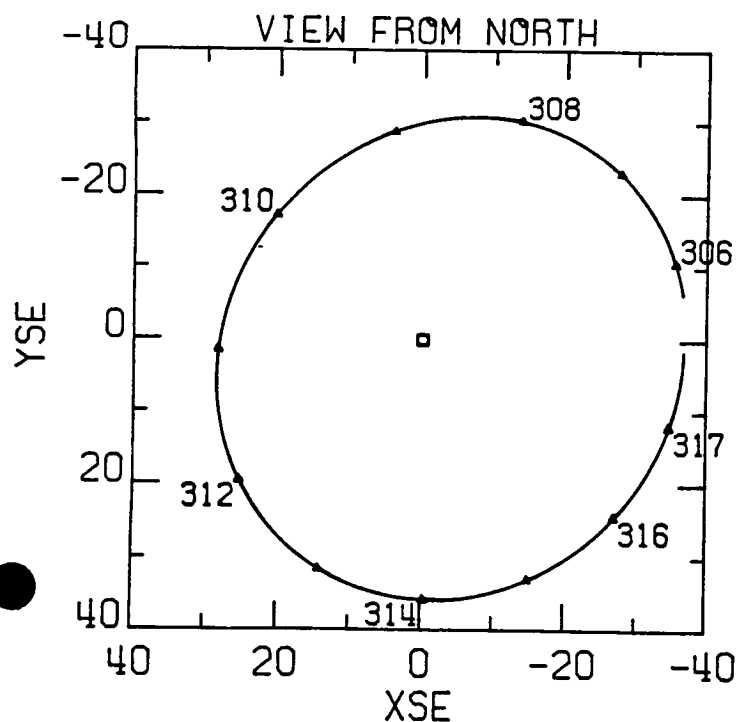
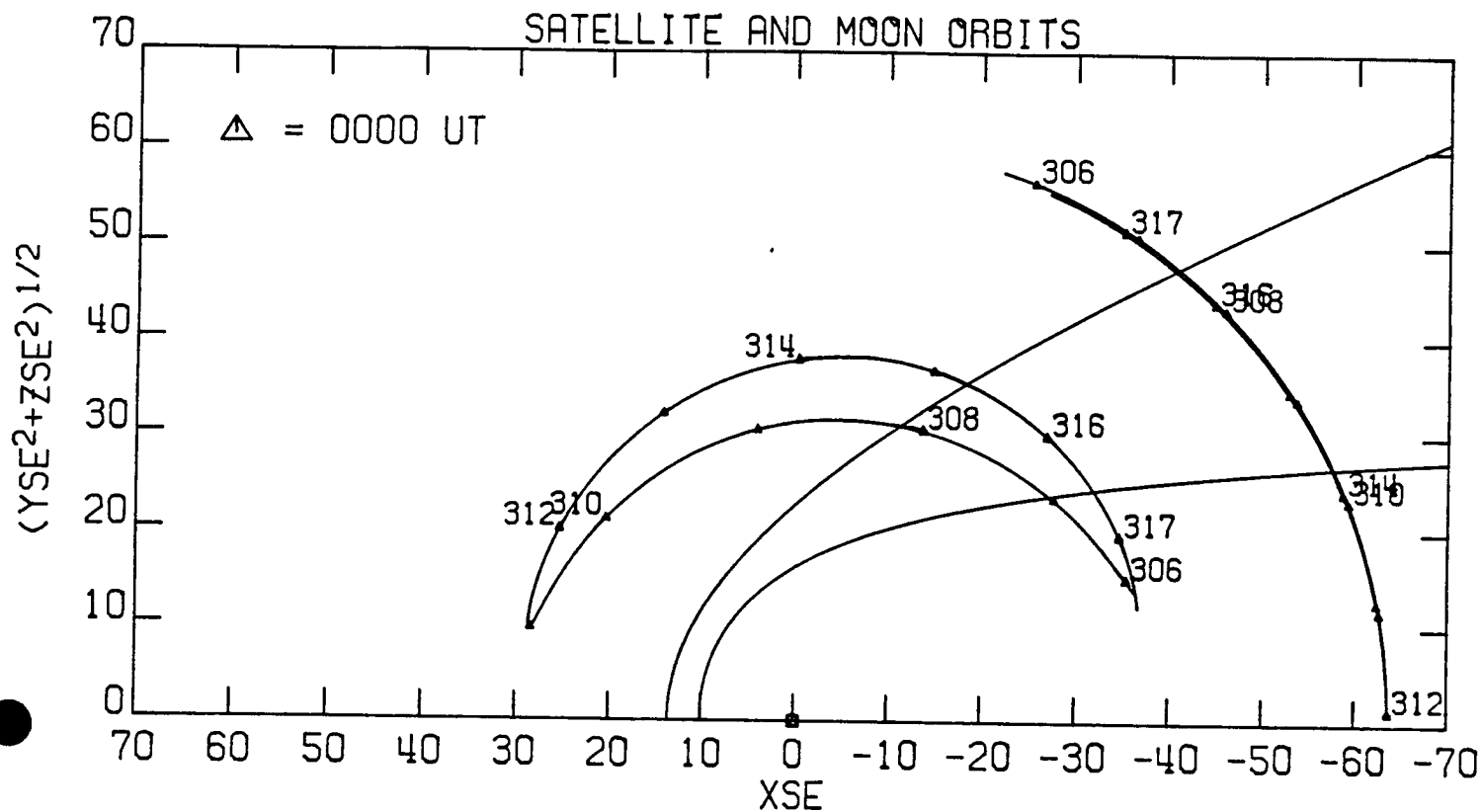


IMP 7 TRAJECTORY.

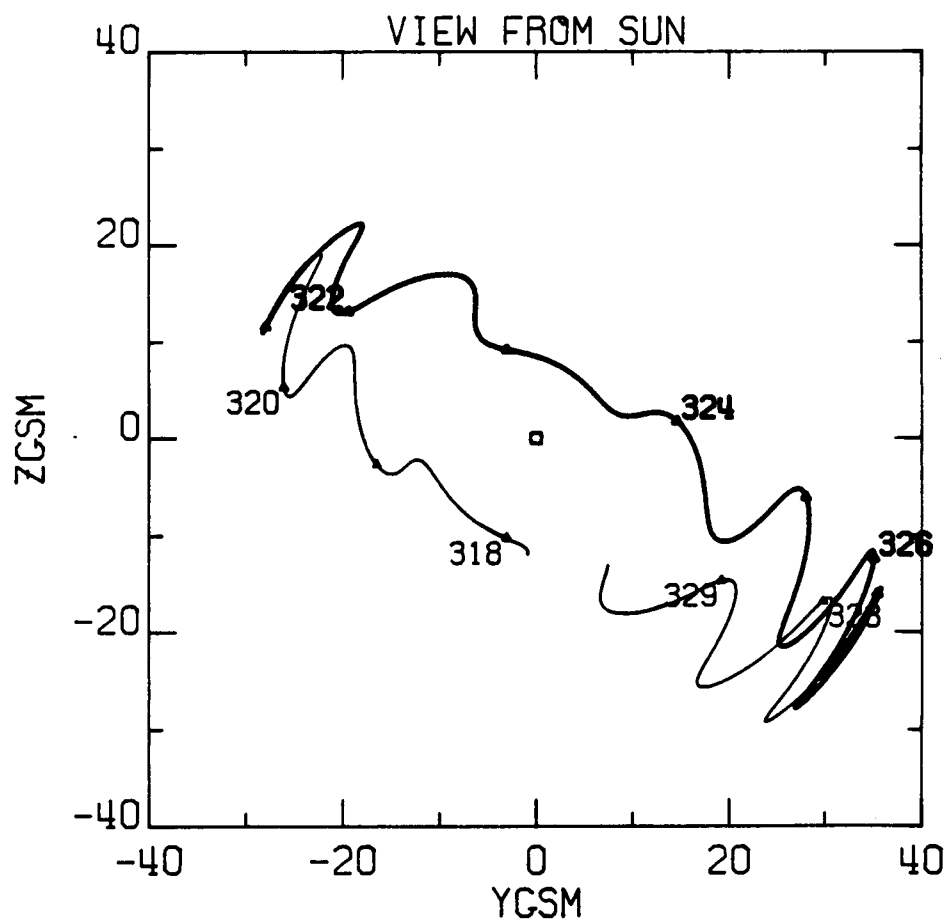
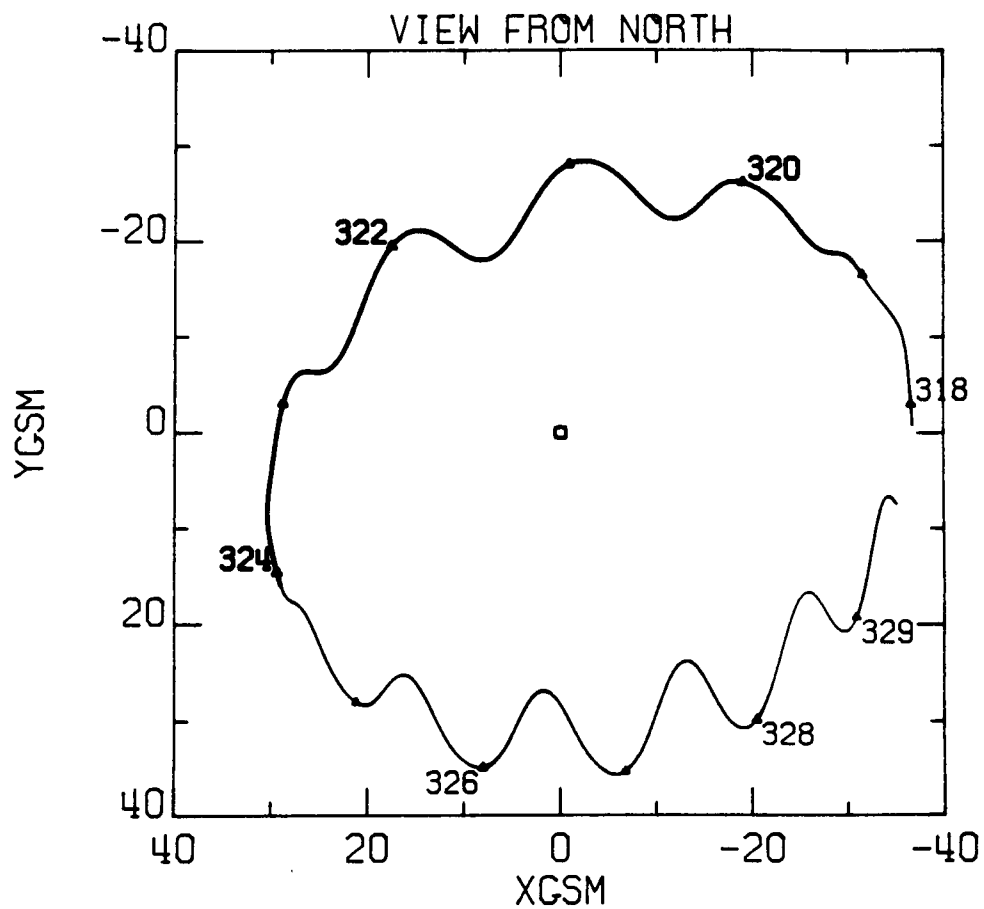
ASCENDING NODE 124

FROM OCT 31 TO NOV 12 1976

DAYS 305 THRU 317



IMP 7 FROM NOV 12 TO NOV 24 1976

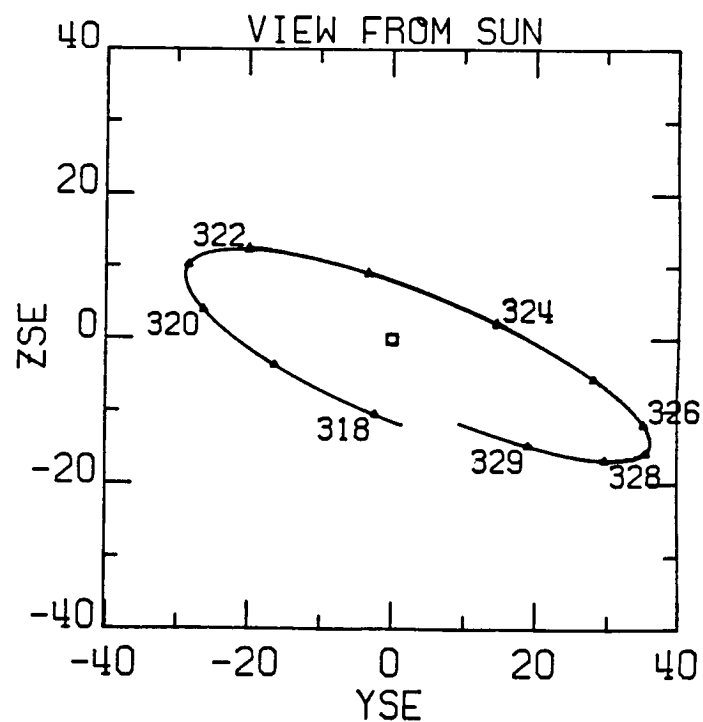
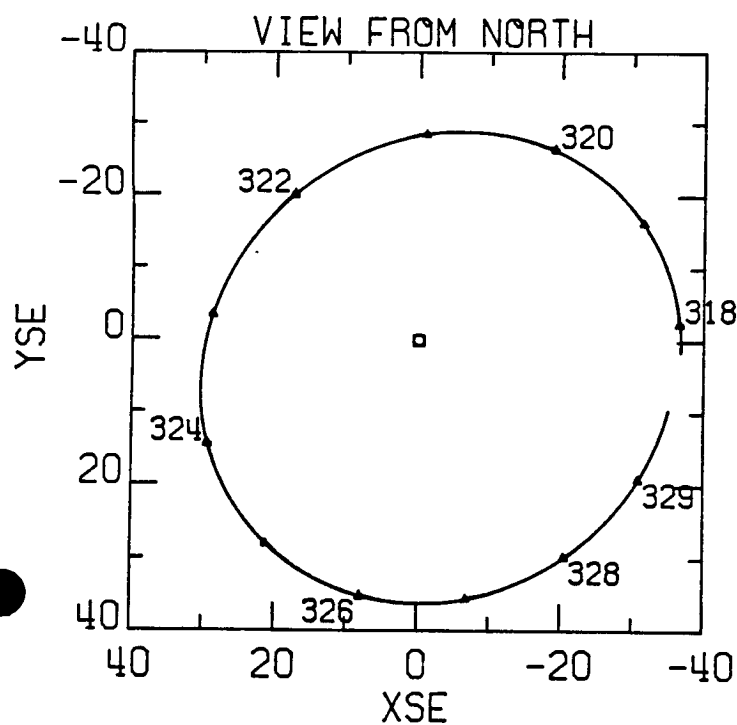
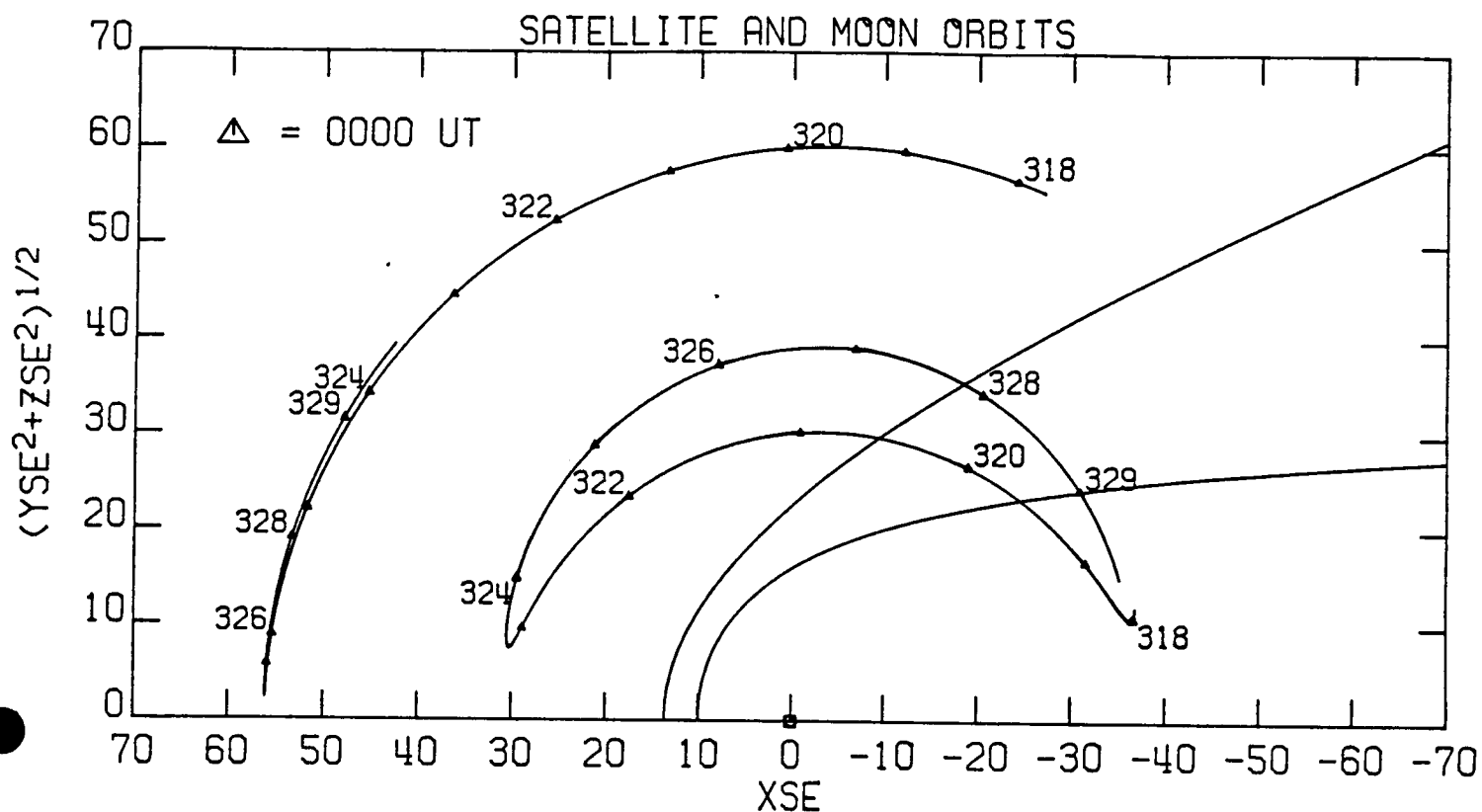


IMP 7 TRAJECTORY.

ASCENDING NODE 125

FROM NOV 12 TO NOV 24 1976

DAYS 317 THRU 329

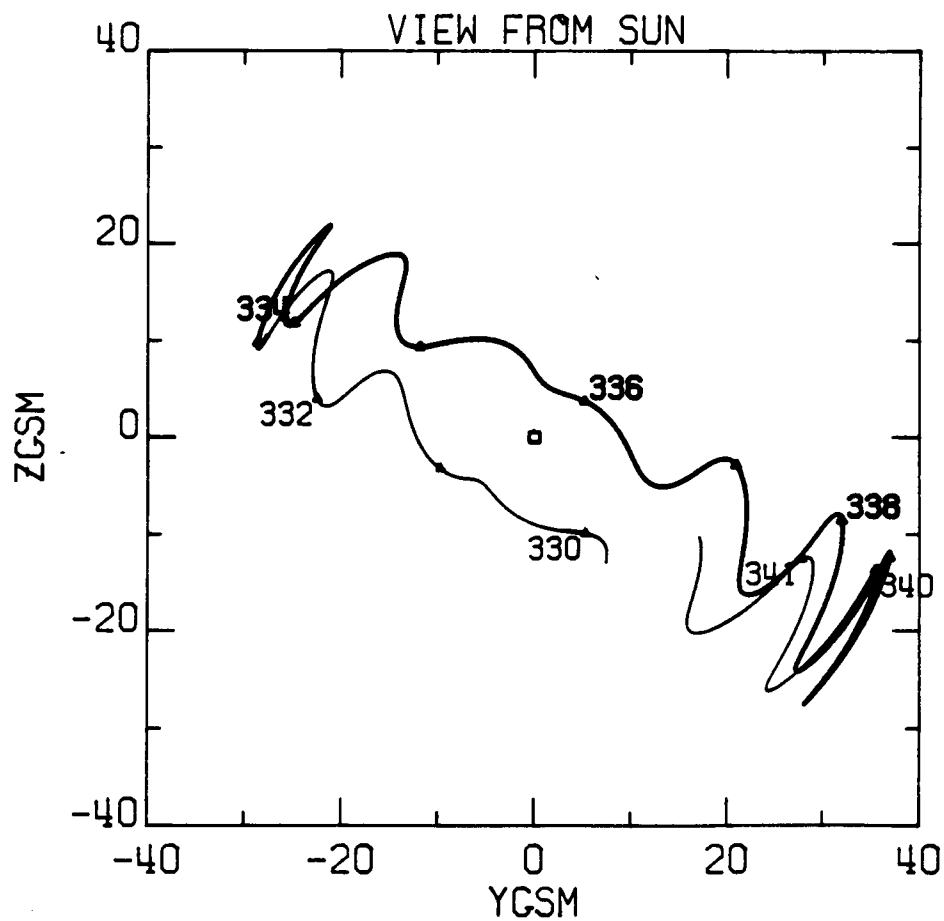
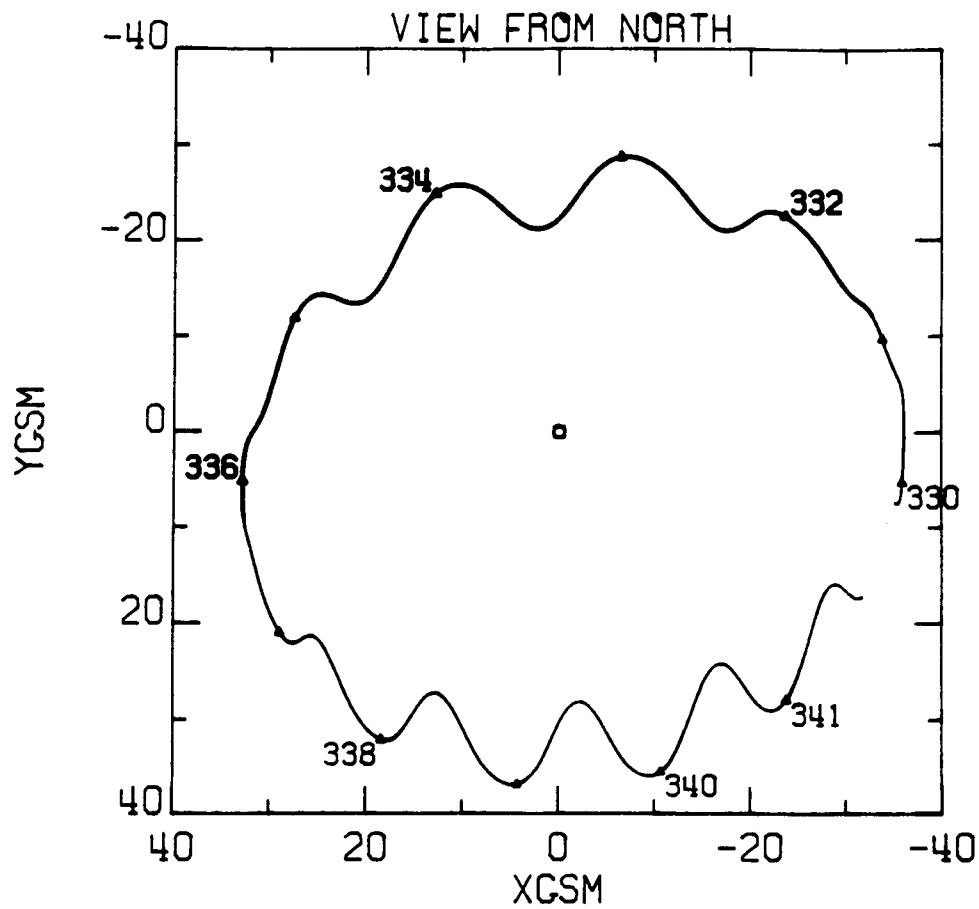


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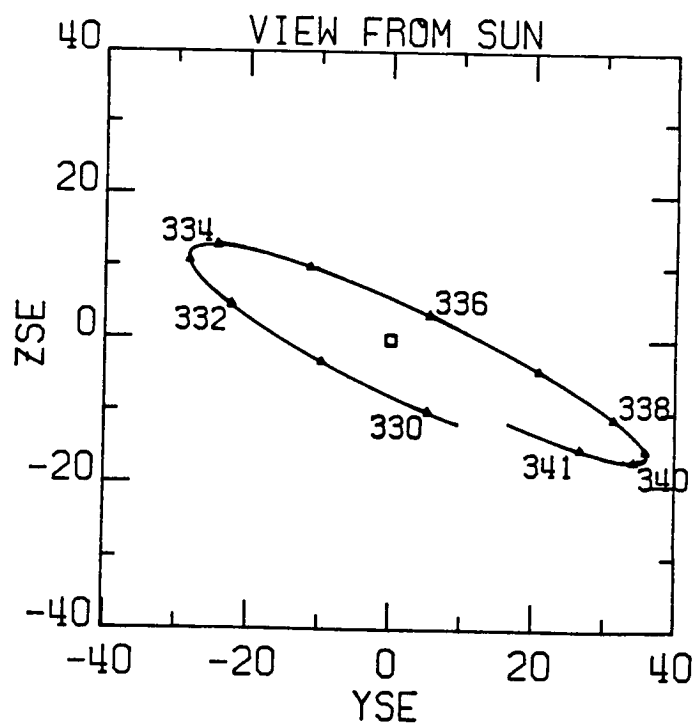
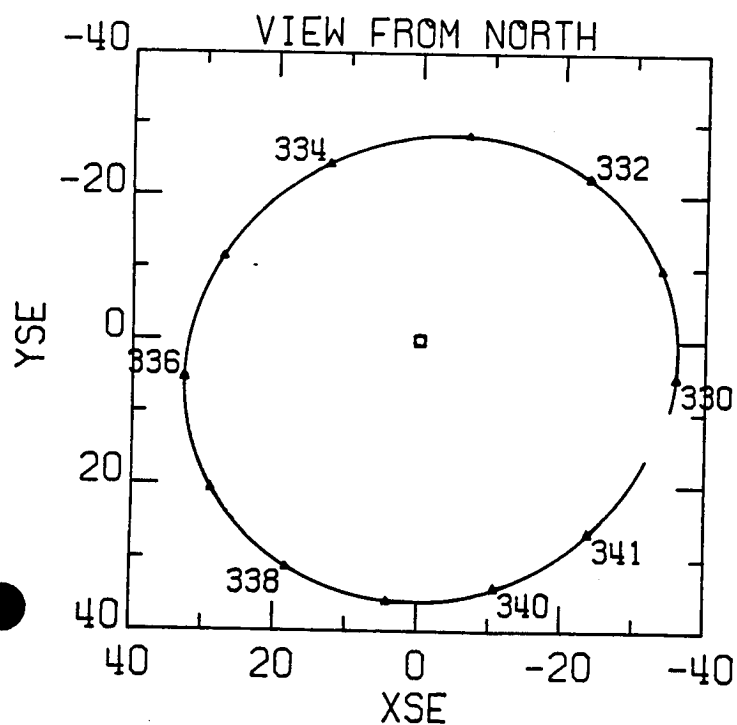
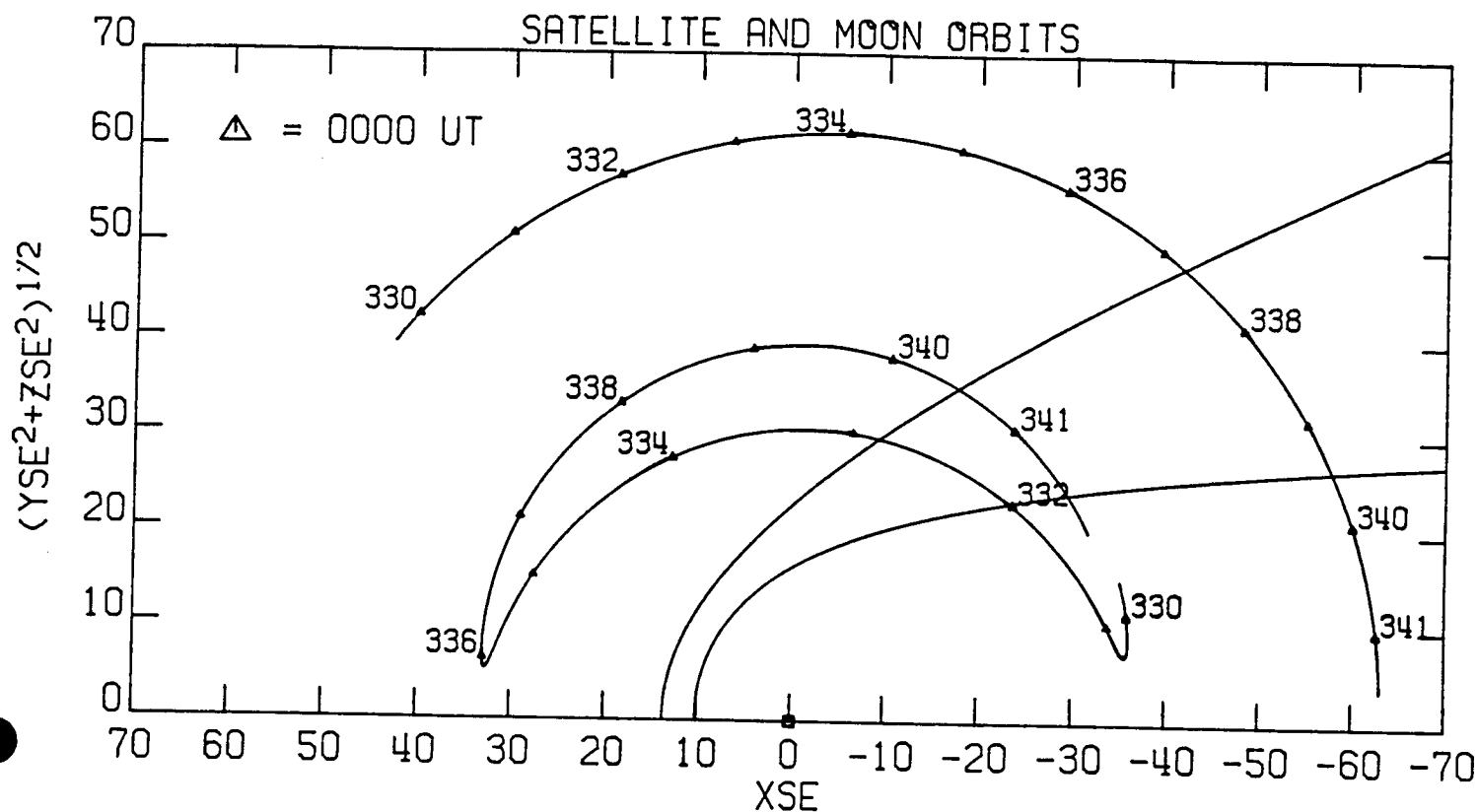
IMP 7 FROM NOV 24 TO DEC 6 1976



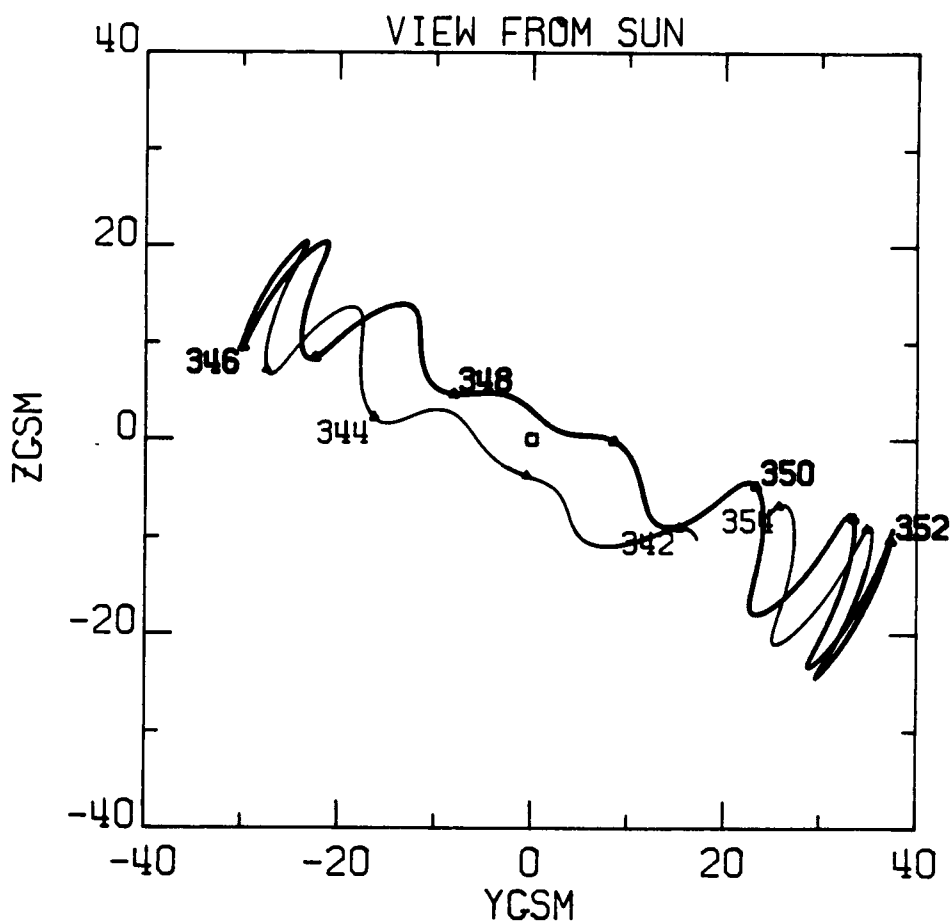
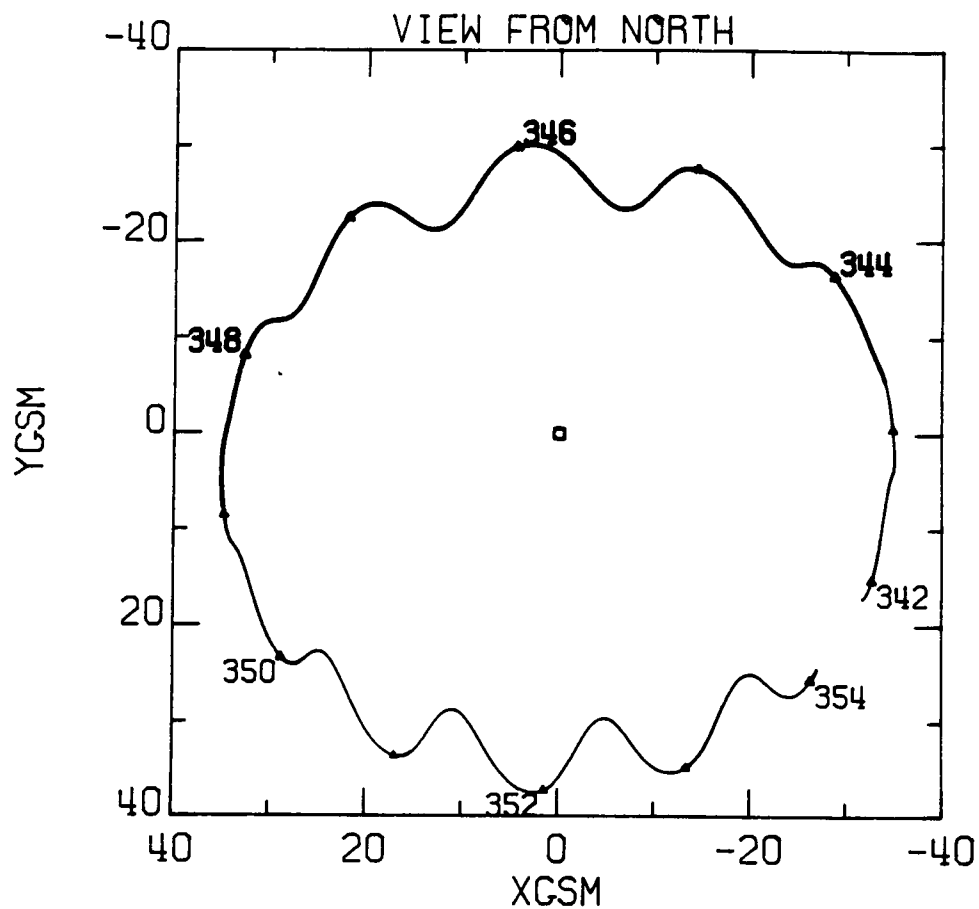
IMP 7 TRAJECTORY. ASCENDING NODE 126

FROM NOV 24 TO DEC 6 1976

DAYS 329 THRU 341

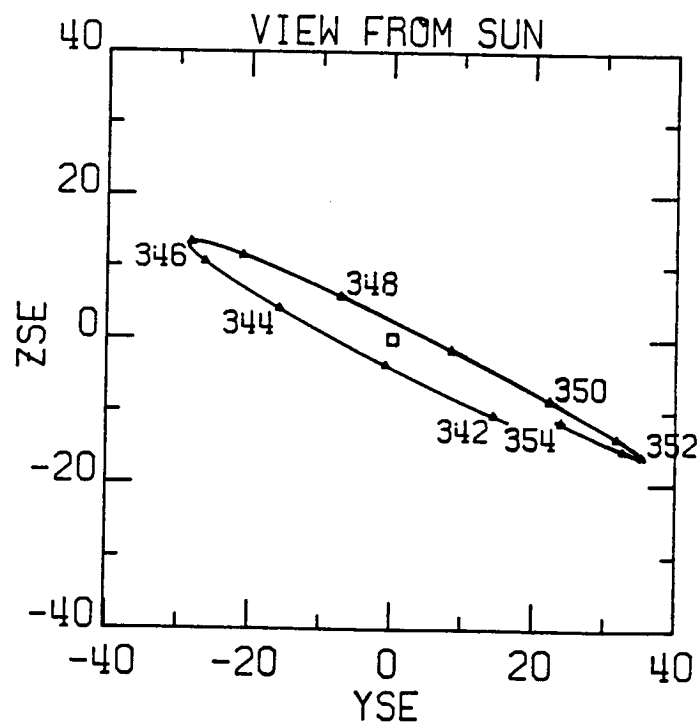
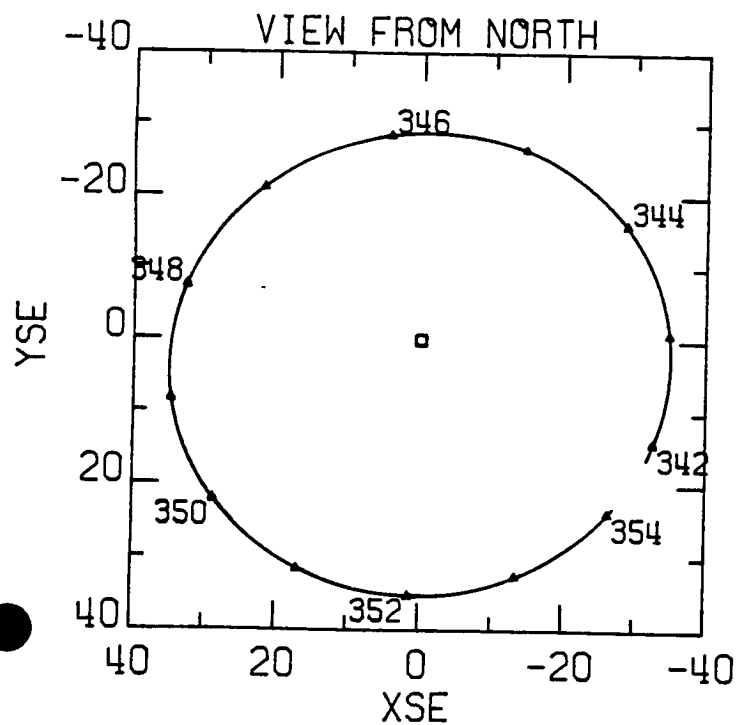
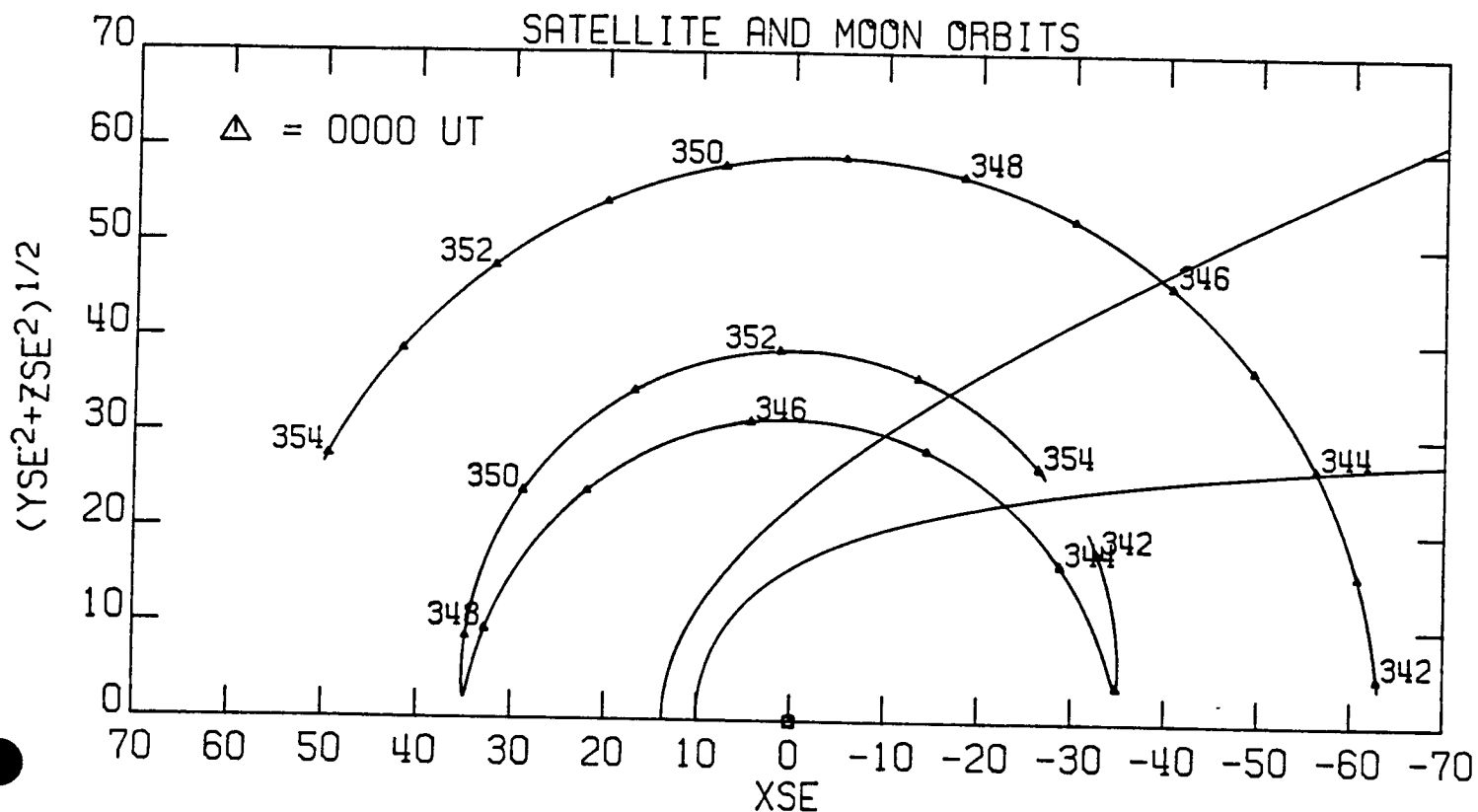


IMP 7 FROM DEC 6 TO DEC 19 1976

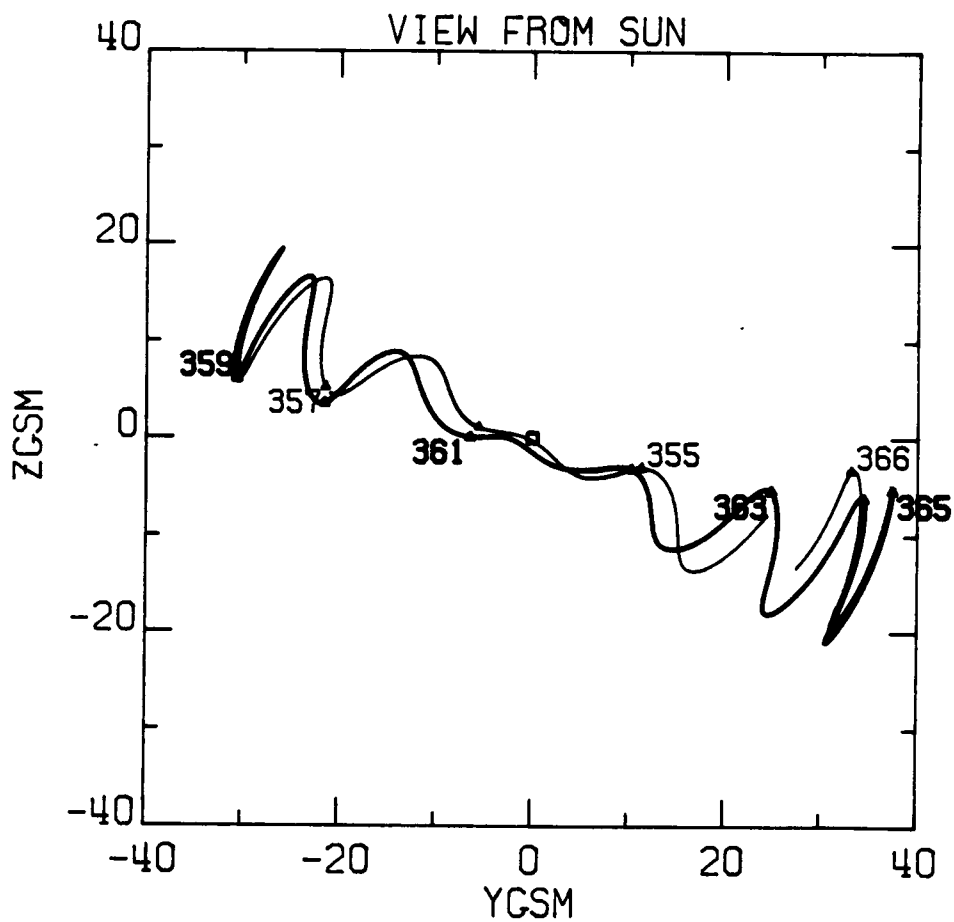
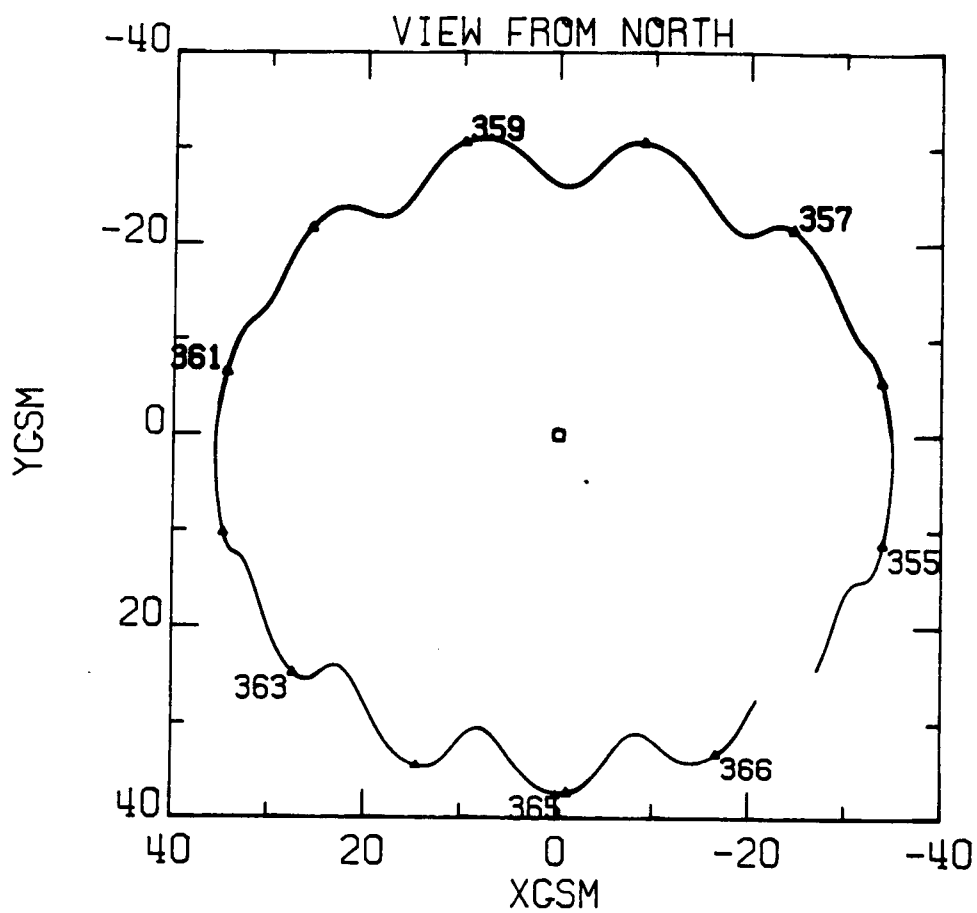


FROM DEC 6 TO DEC 19 1976

DAYS 341 THRU 354

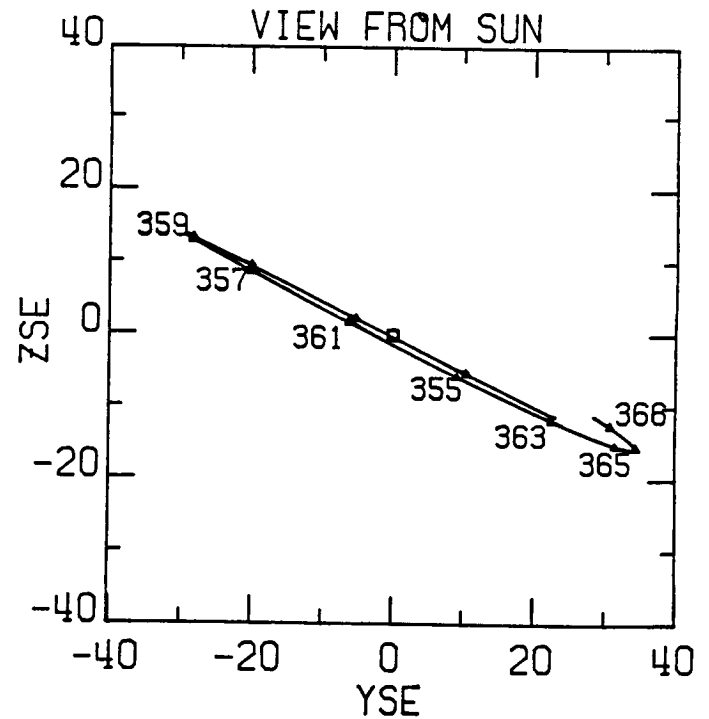
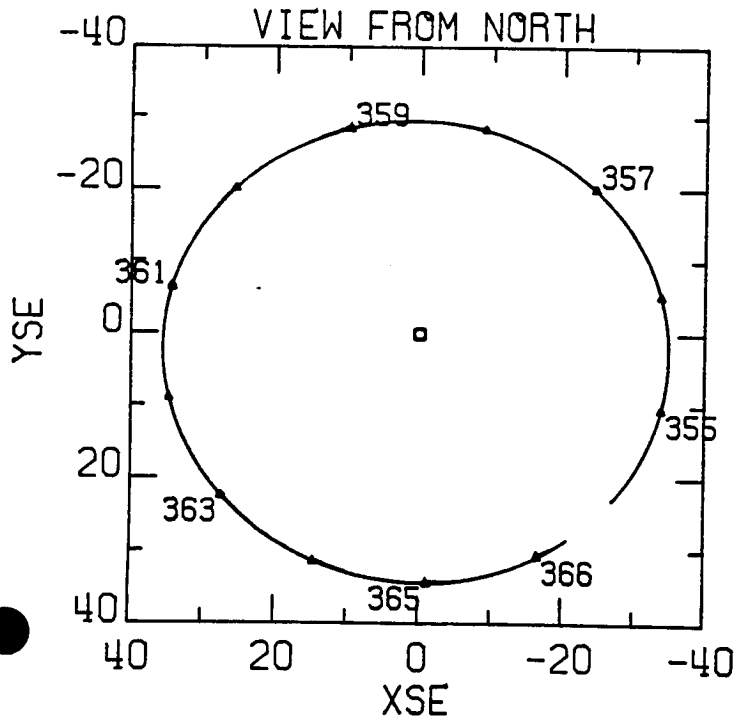
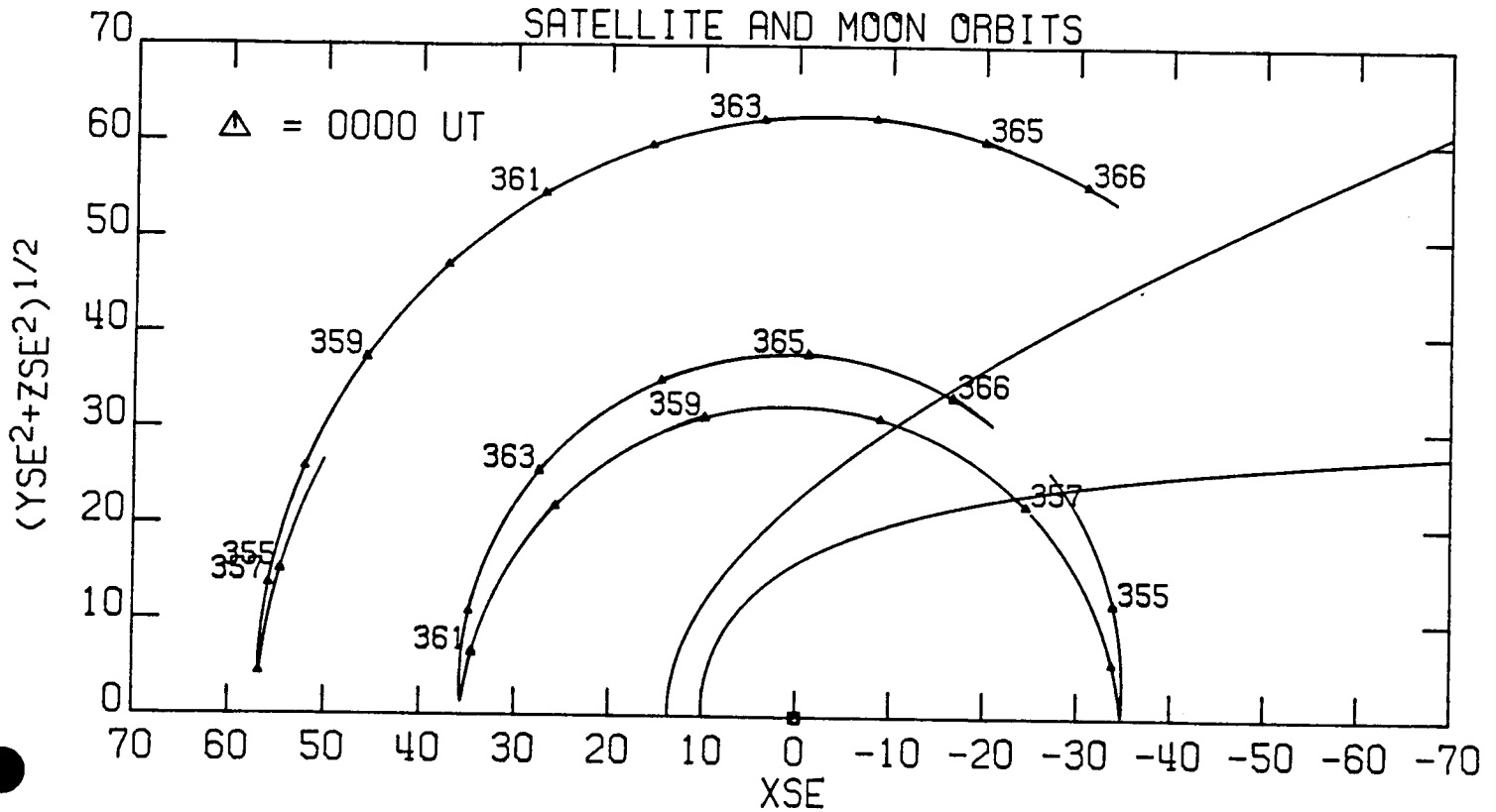


IMP 7 FROM DEC 19 TO DEC 31 1976

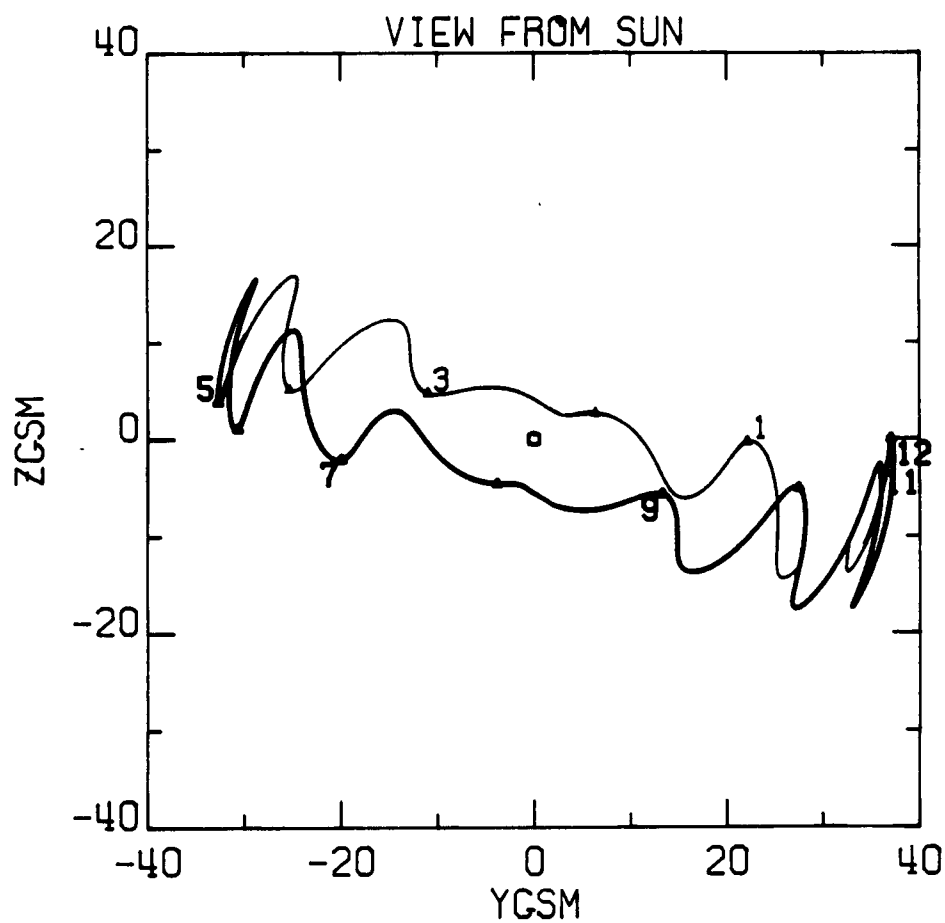
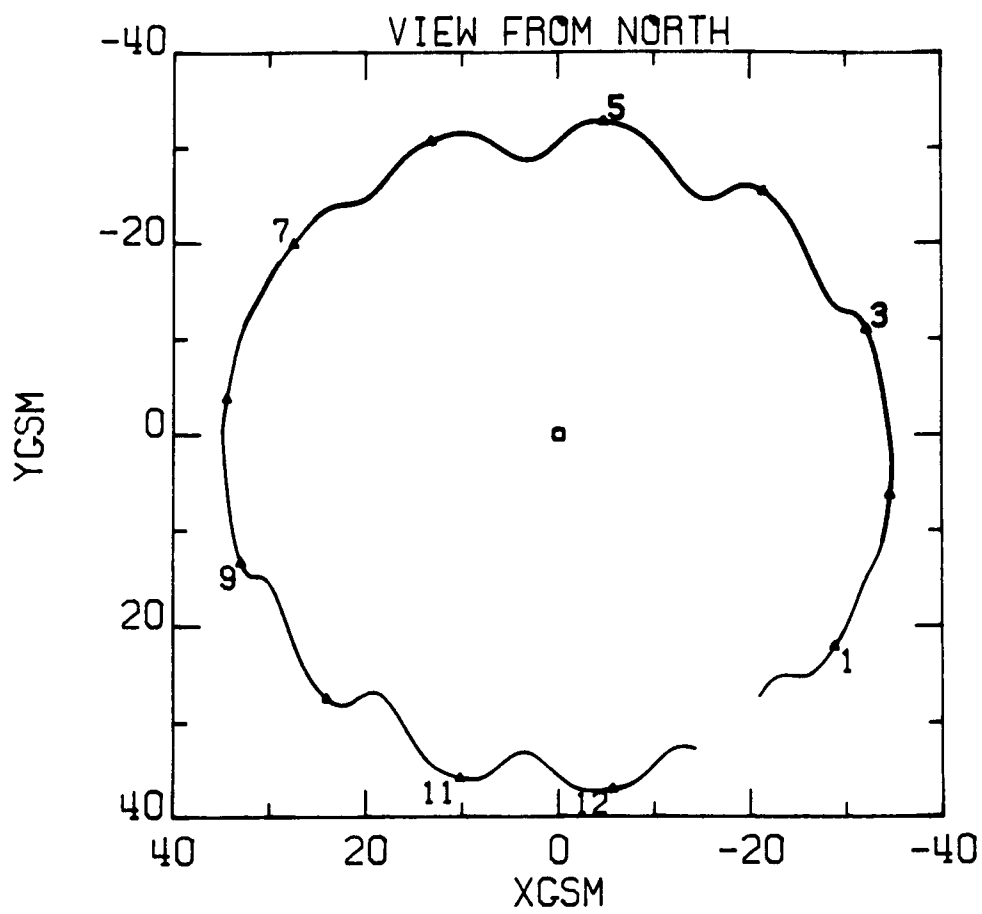


FROM DEC 19 TO DEC 31 1976

DAYS 354 THRU 366

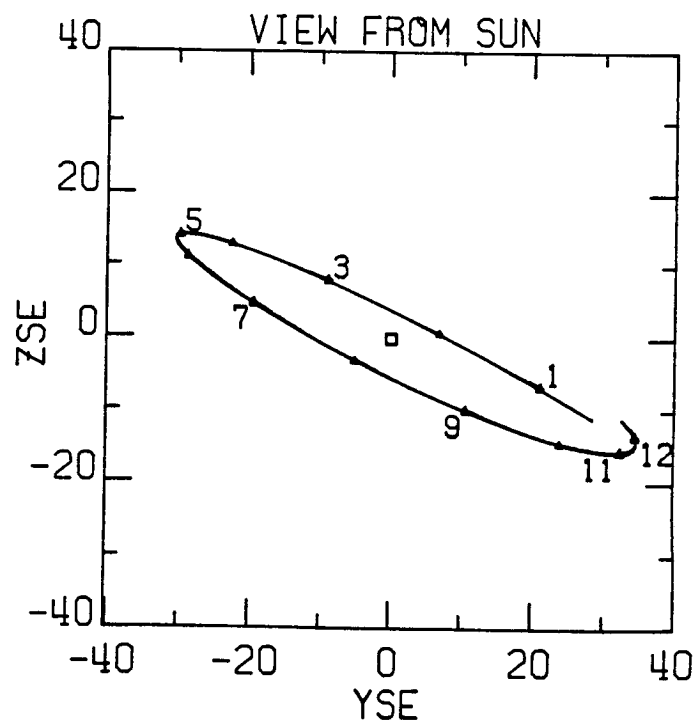
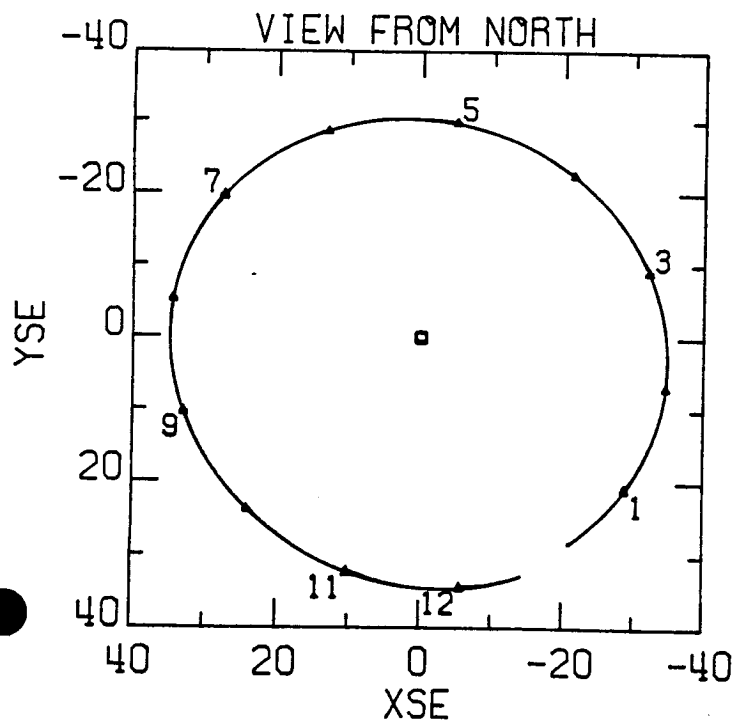
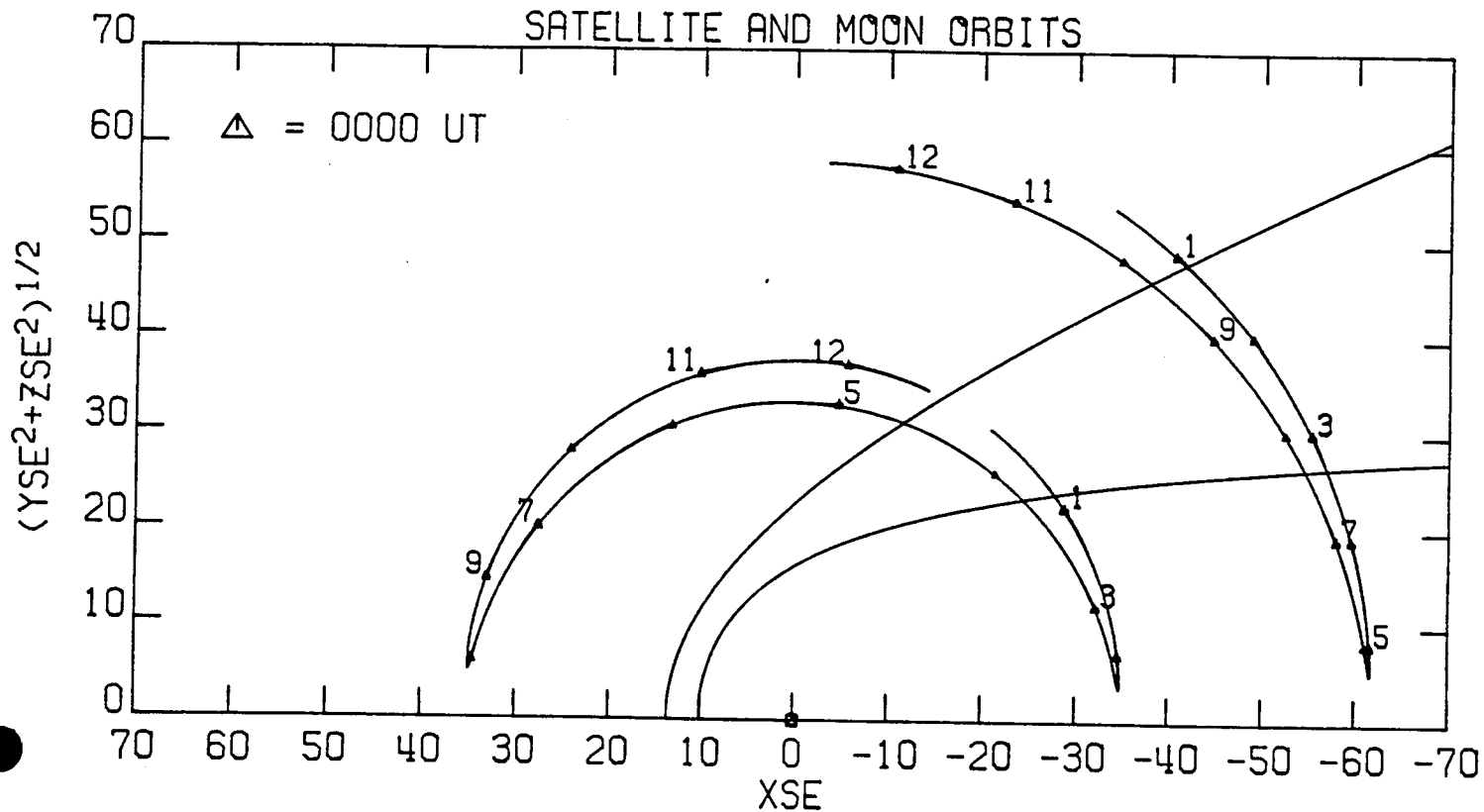


IMP 7 FROM DEC 31 TO JAN 12 1977

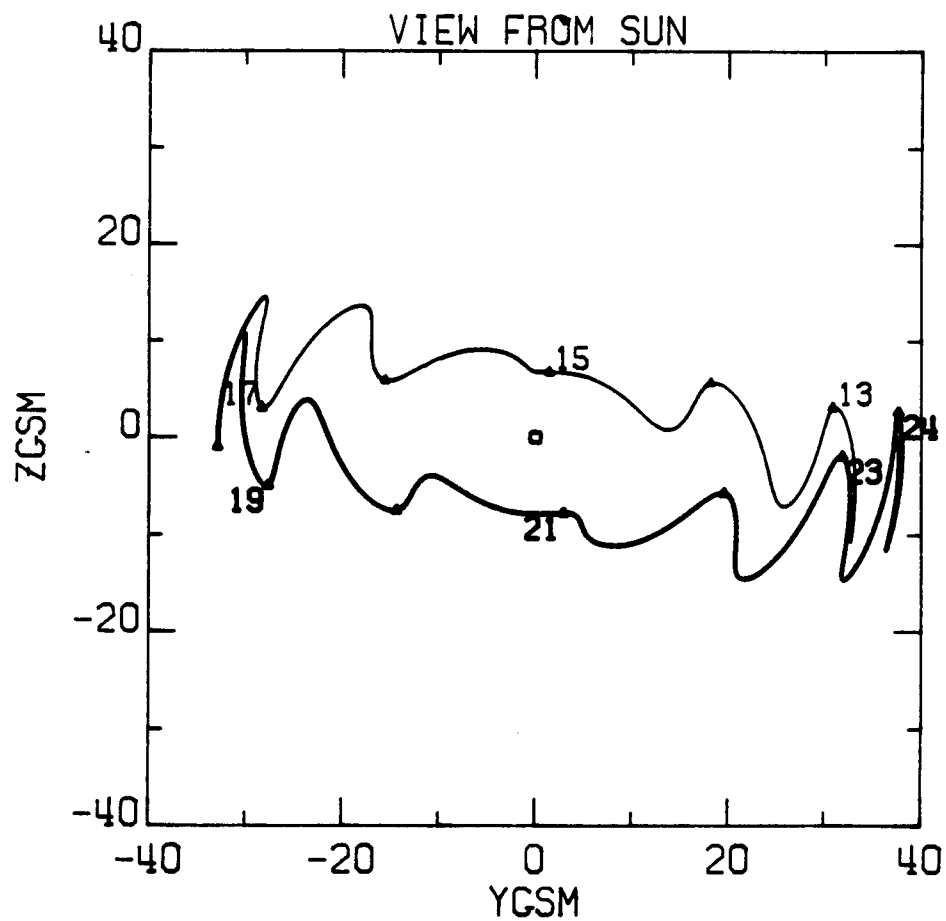
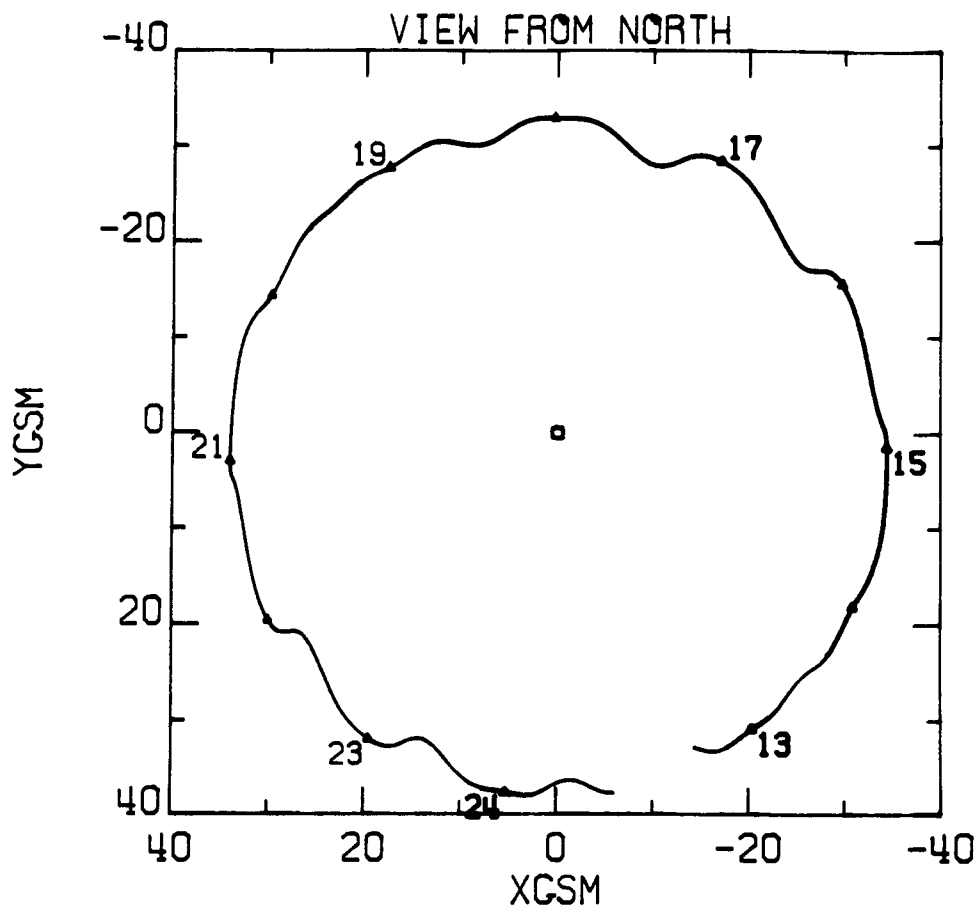


FROM DEC 31 TO JAN 12 1977

DAYS 366 THRU 12



IMP 7 FROM JAN 12 TO JAN 24 1977



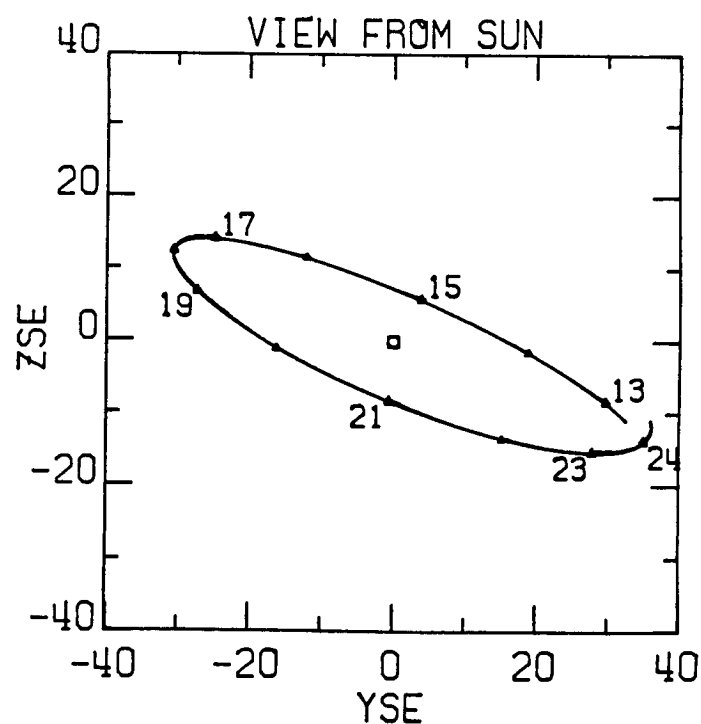
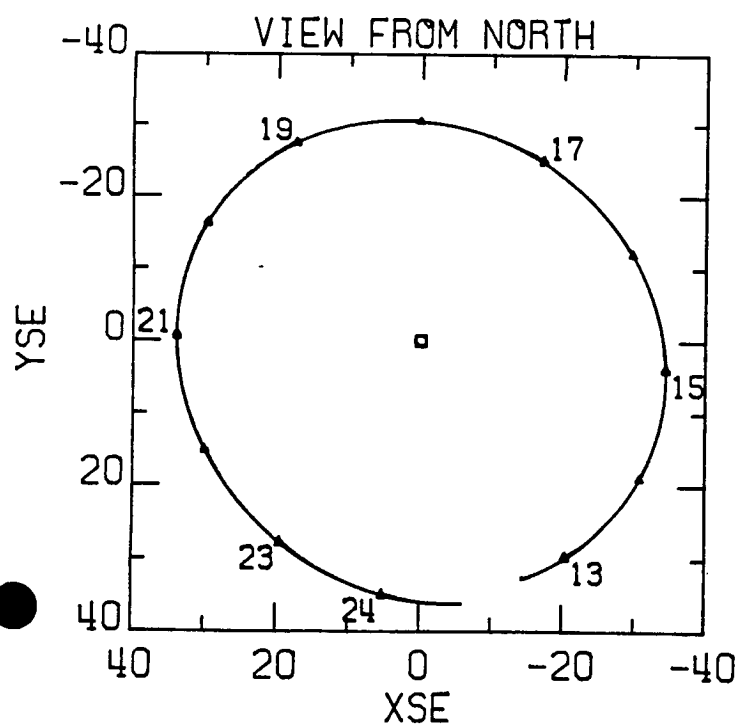
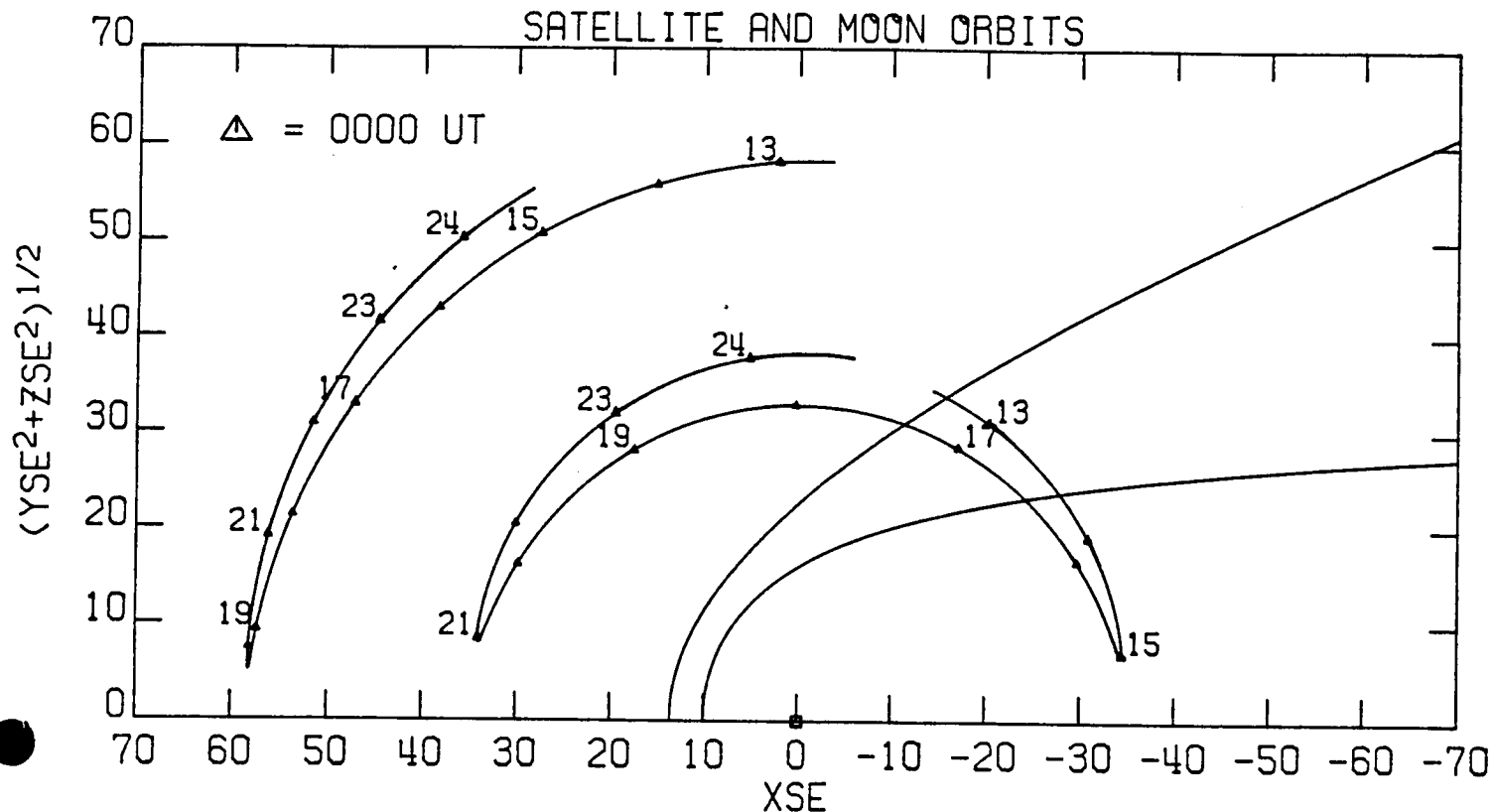
IMP 7 TRAJECTORY.

ASCENDING NODE 130

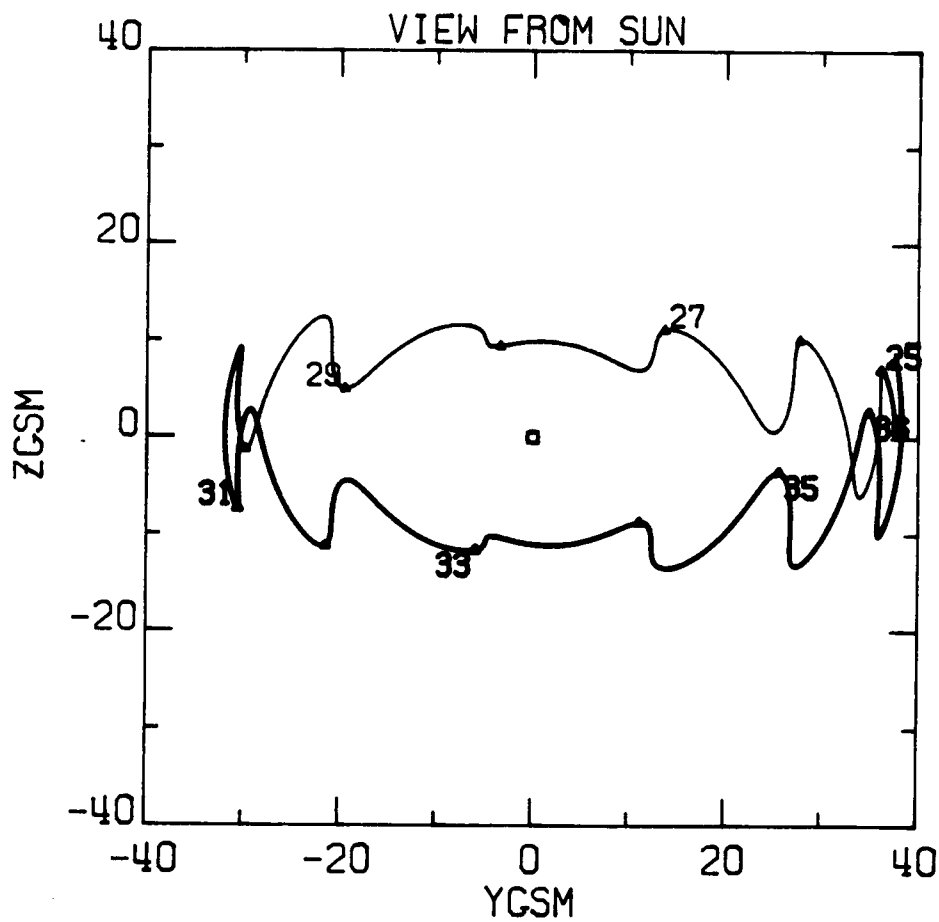
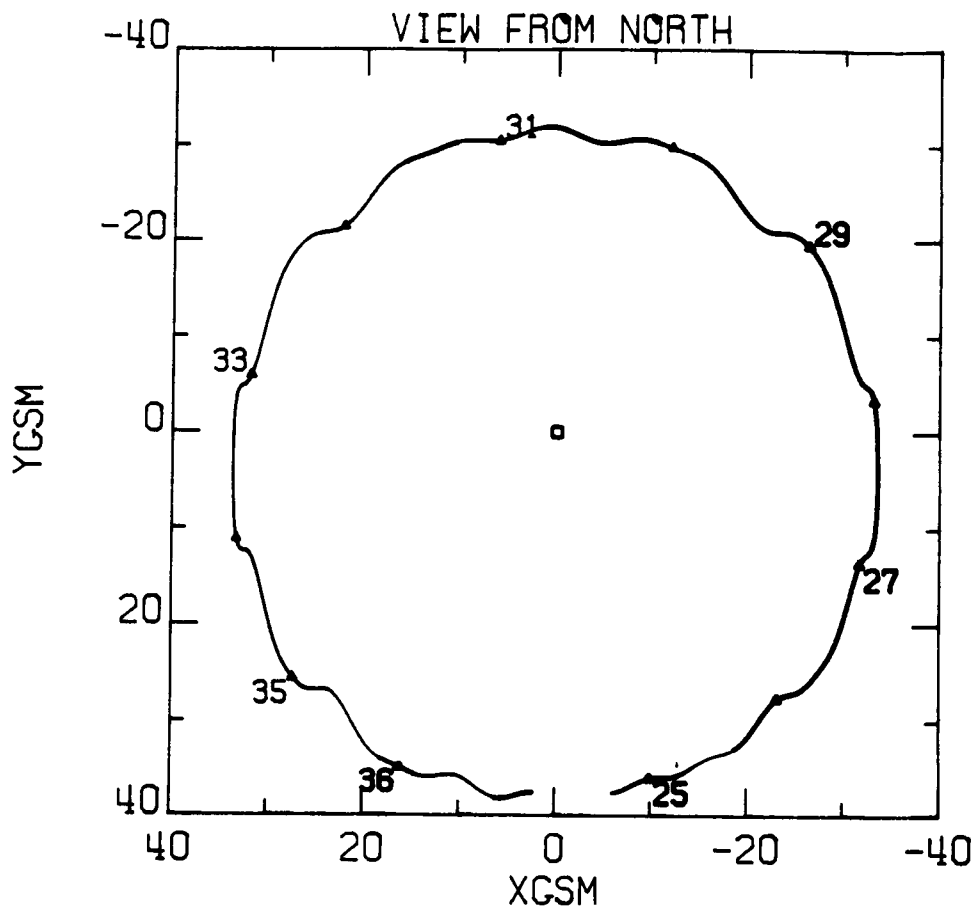
FROM JAN 12 TO JAN 24 1977

DAYS 12 THRU 24

SATELLITE AND MOON ORBITS



IMP 7 FROM JAN 24 TO FEB 5 1977

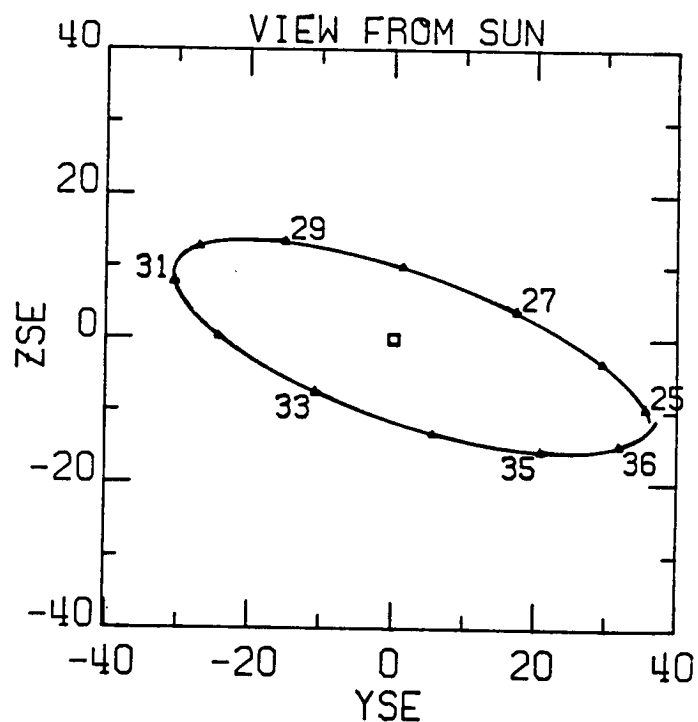
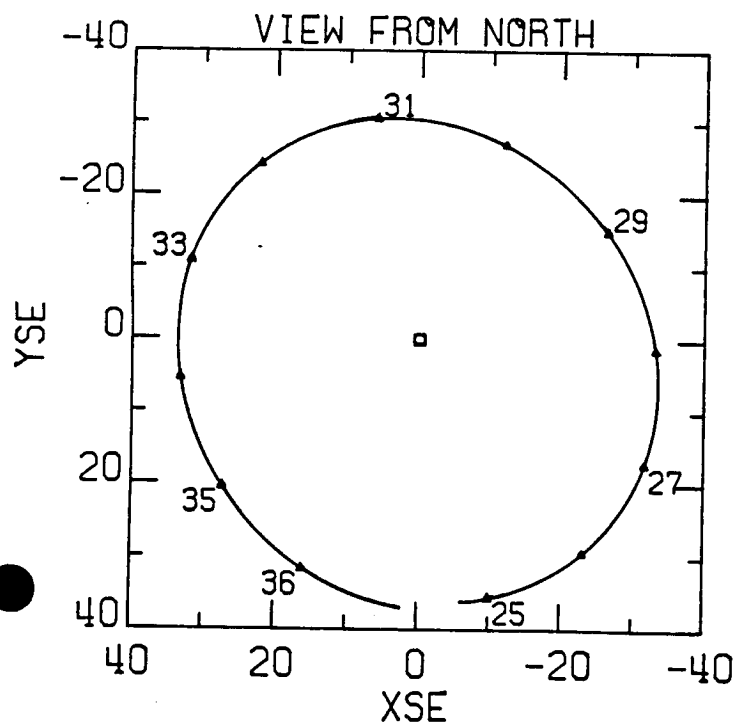
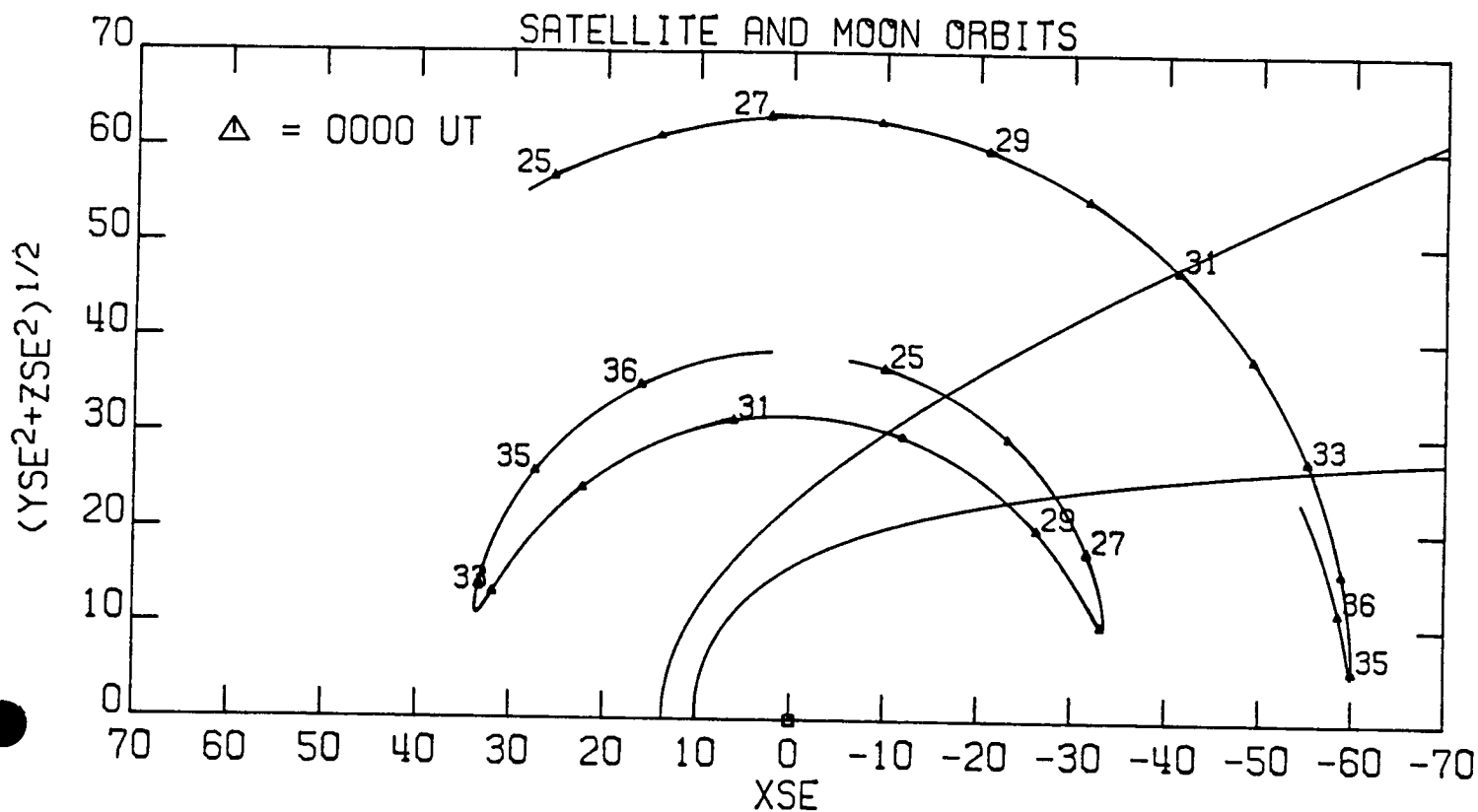


IMP 7 TRAJECTORY.

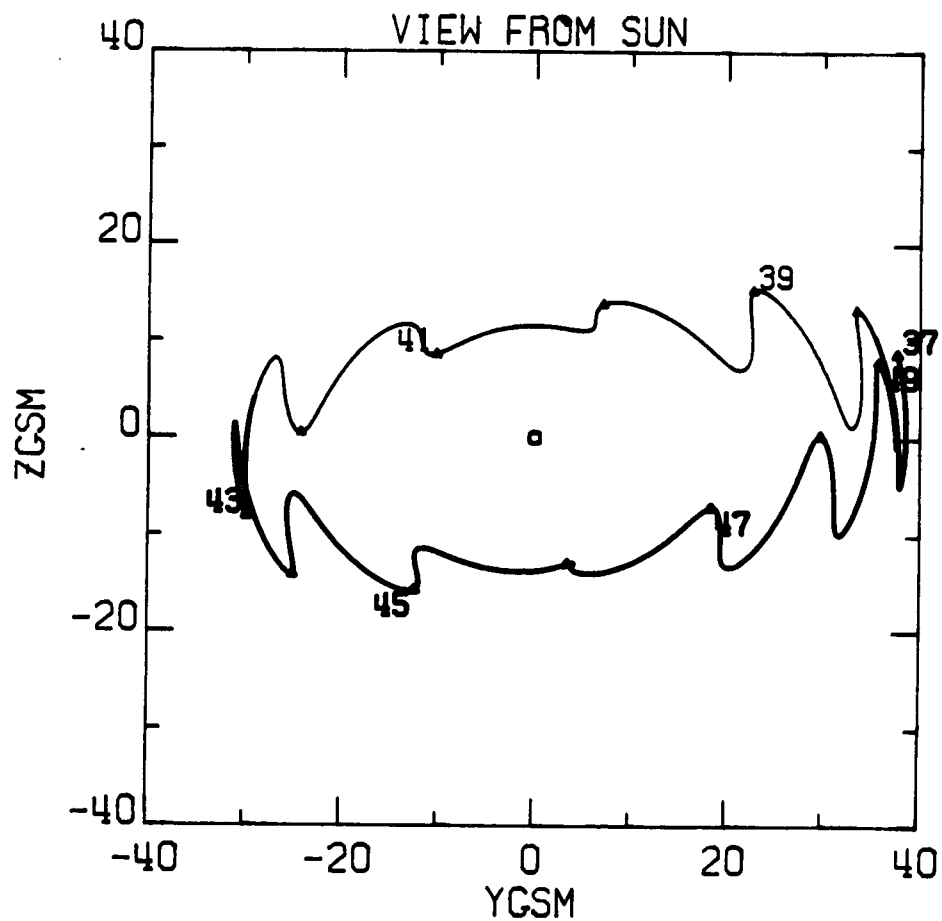
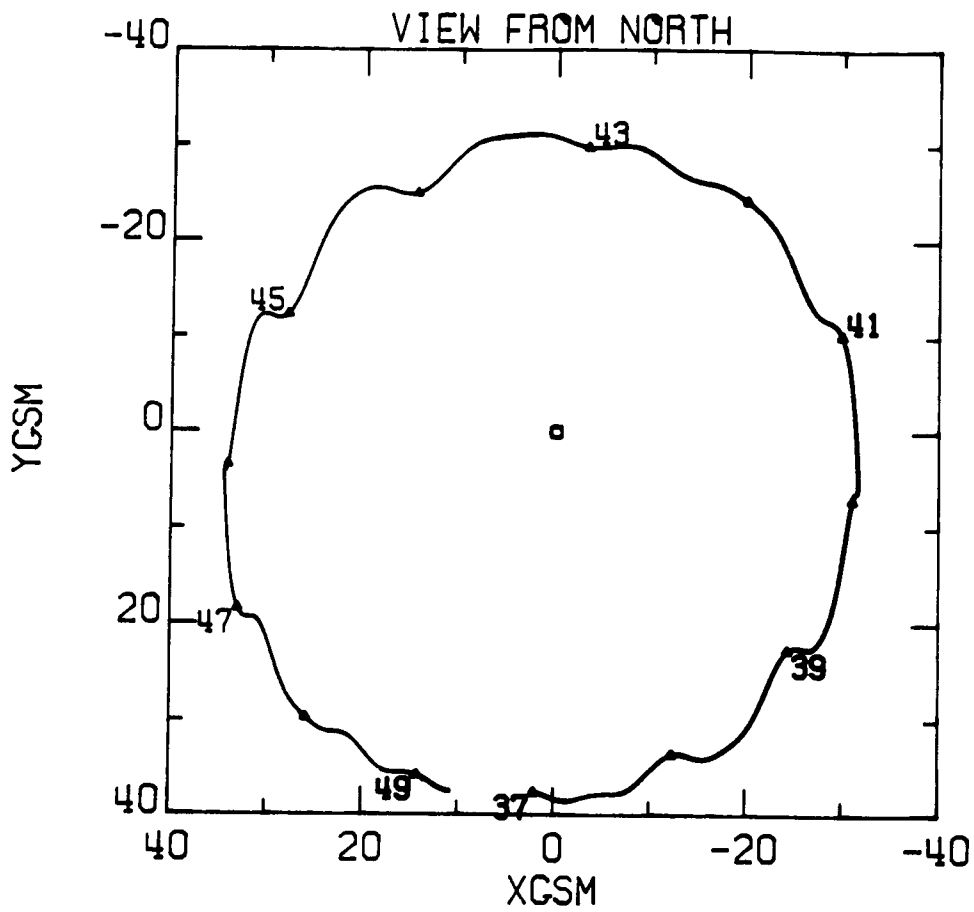
ASCENDING NODE 131

FROM JAN 24 TO FEB 5 1977

DAYS 24 THRU 36



IMP 7 FROM FEB 5 TO FEB 18 1977

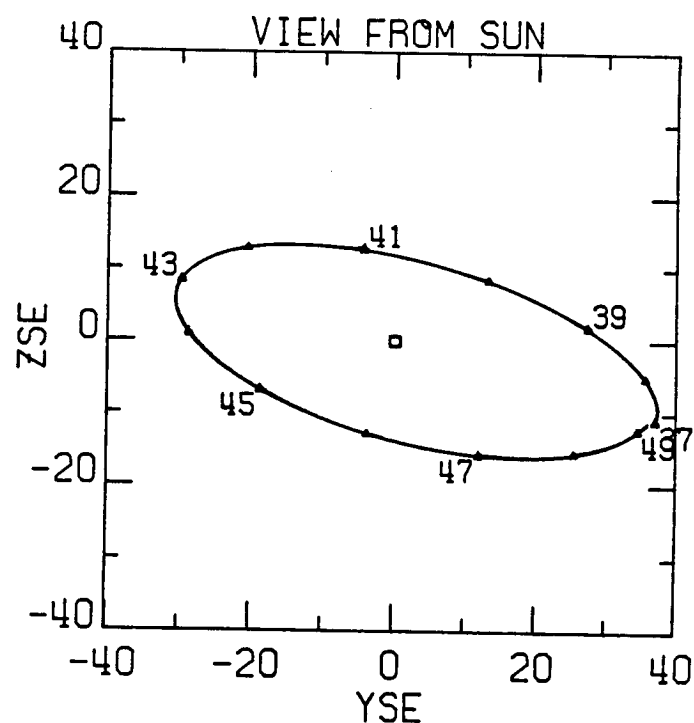
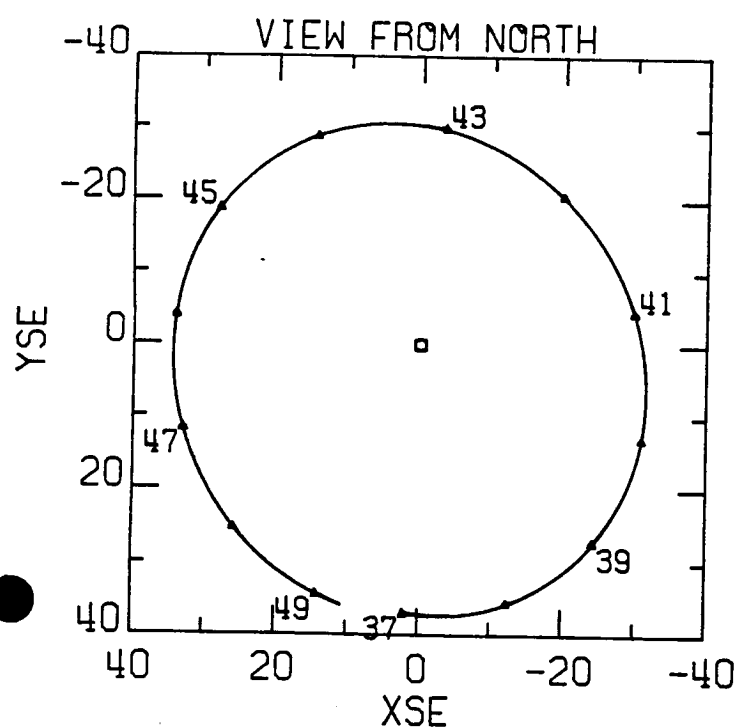
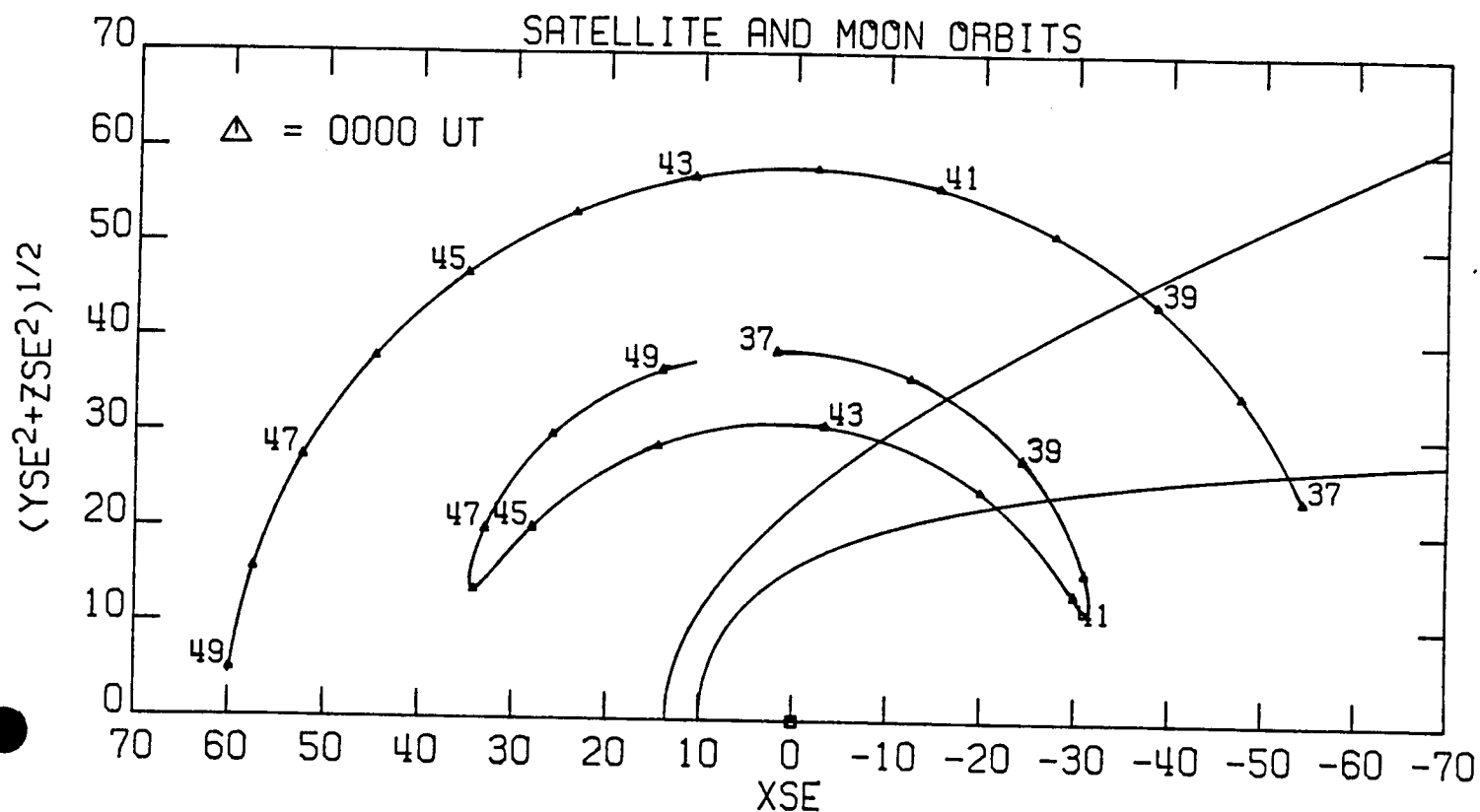


IMP 7 TRAJECTORY.

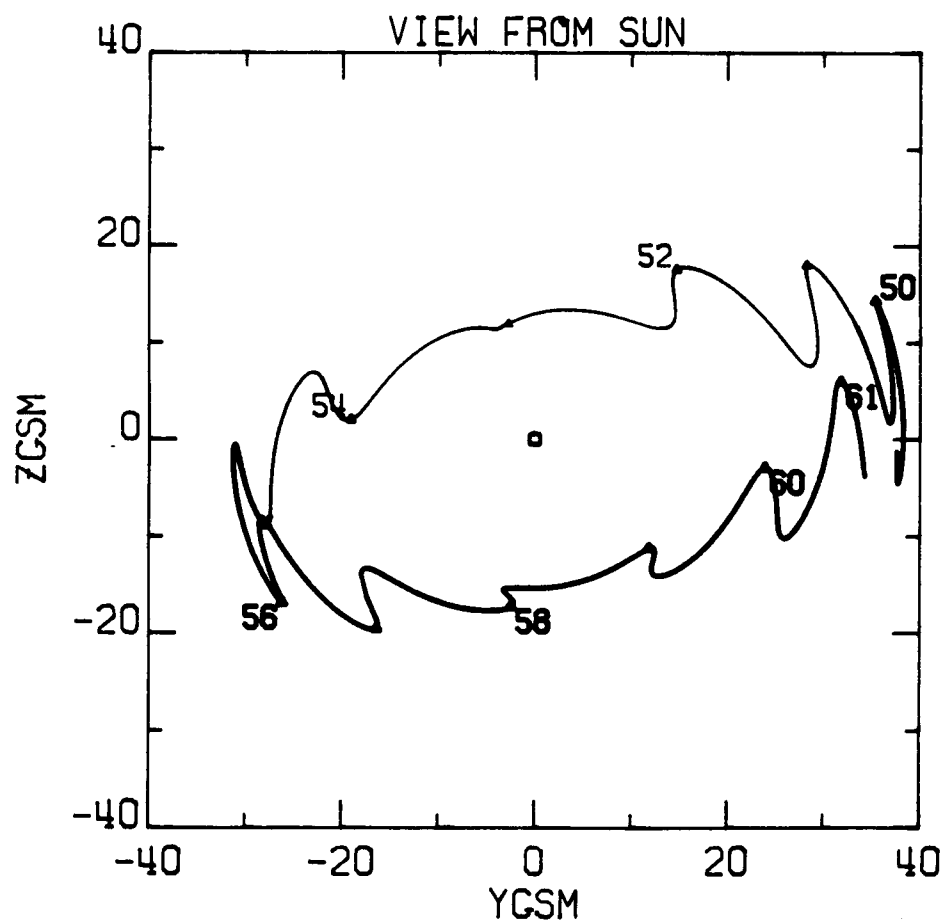
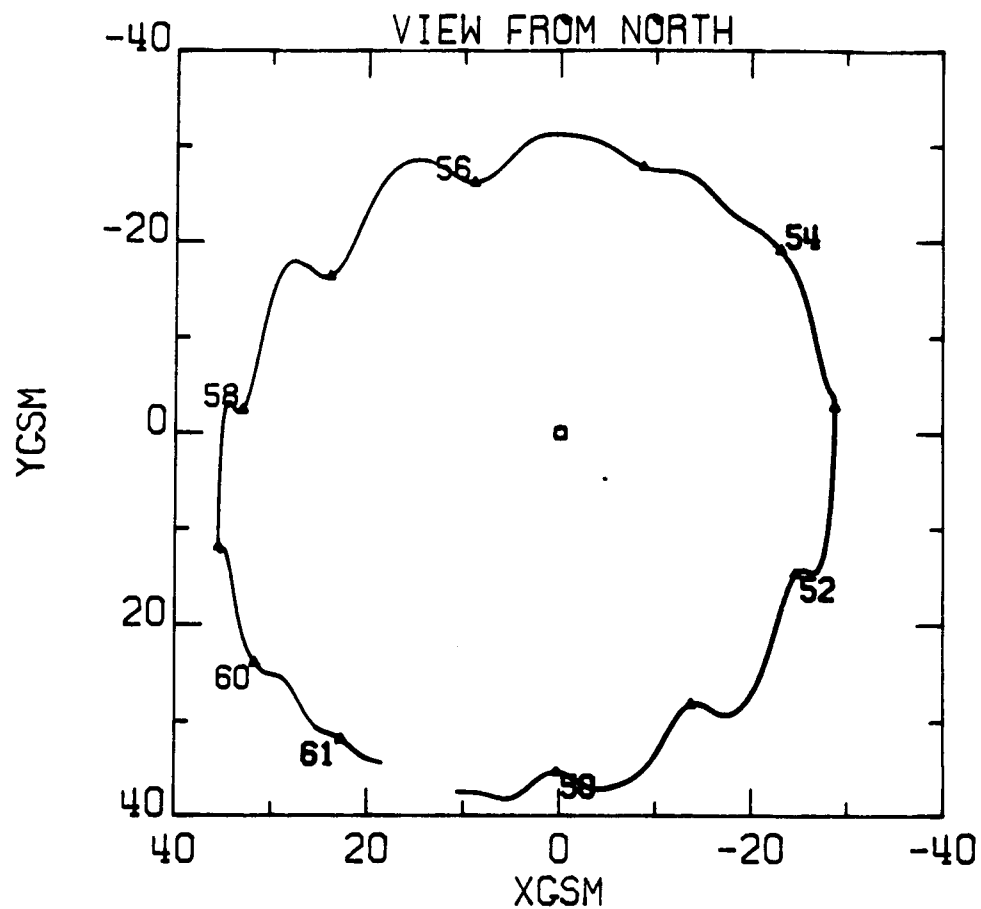
ASCENDING NODE 132

FROM FEB 5 TO FEB 18 1977

DAYS 36 THRU 49



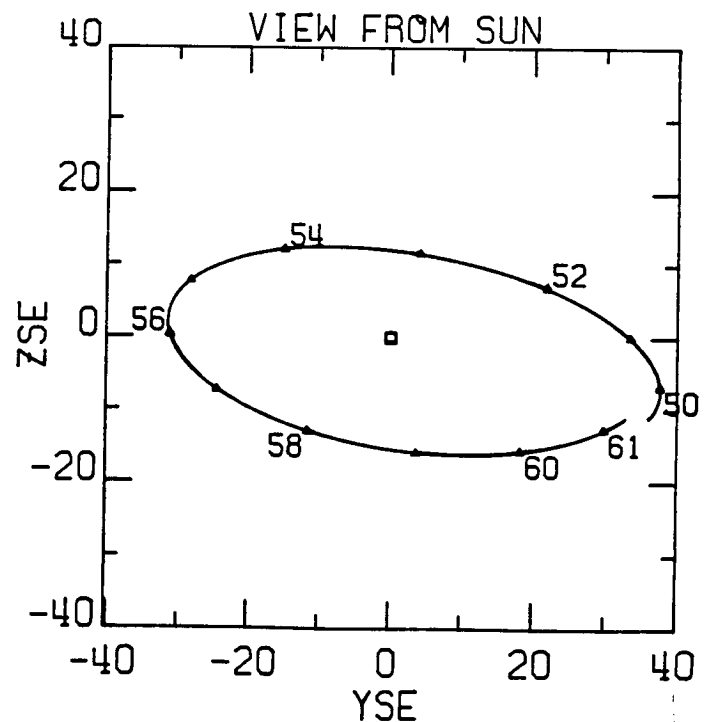
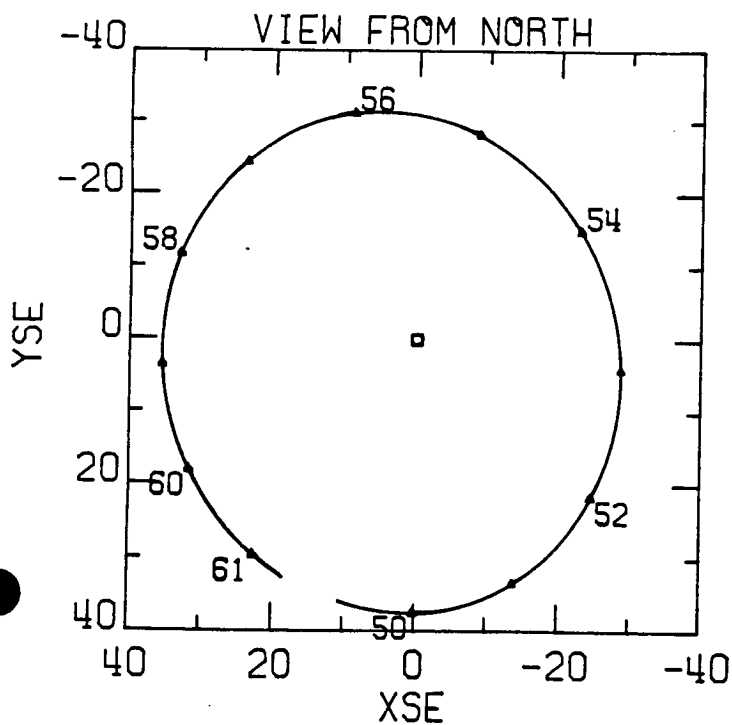
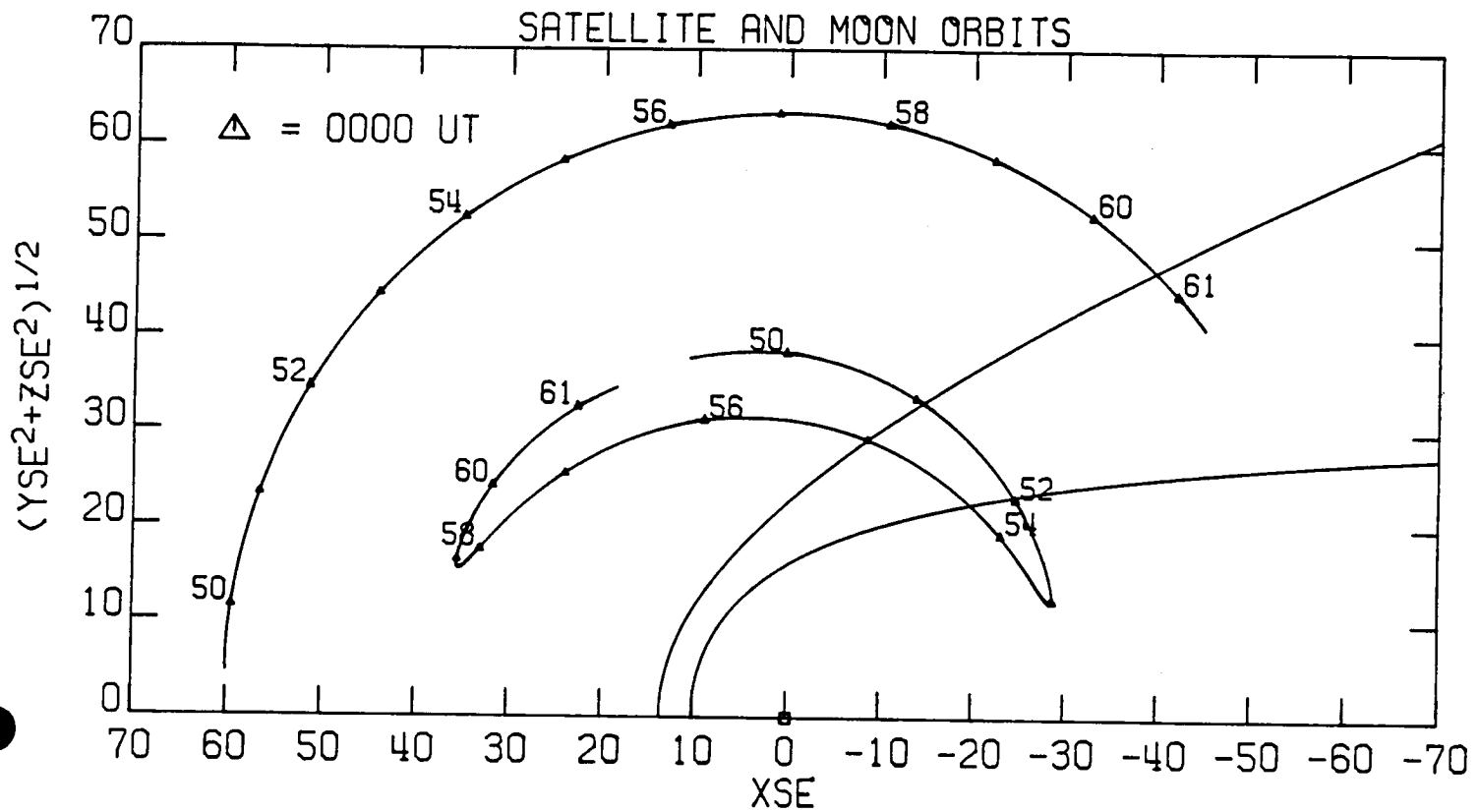
IMP 7 FROM FEB 18 TO MAR 2 1977



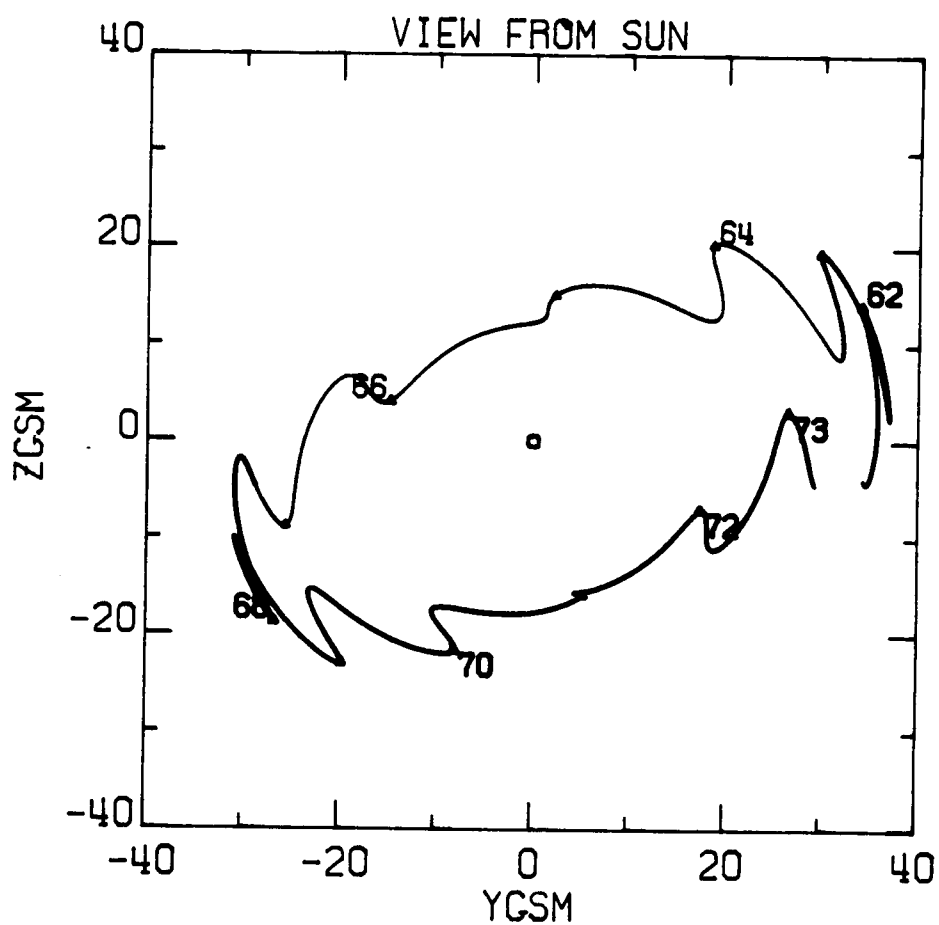
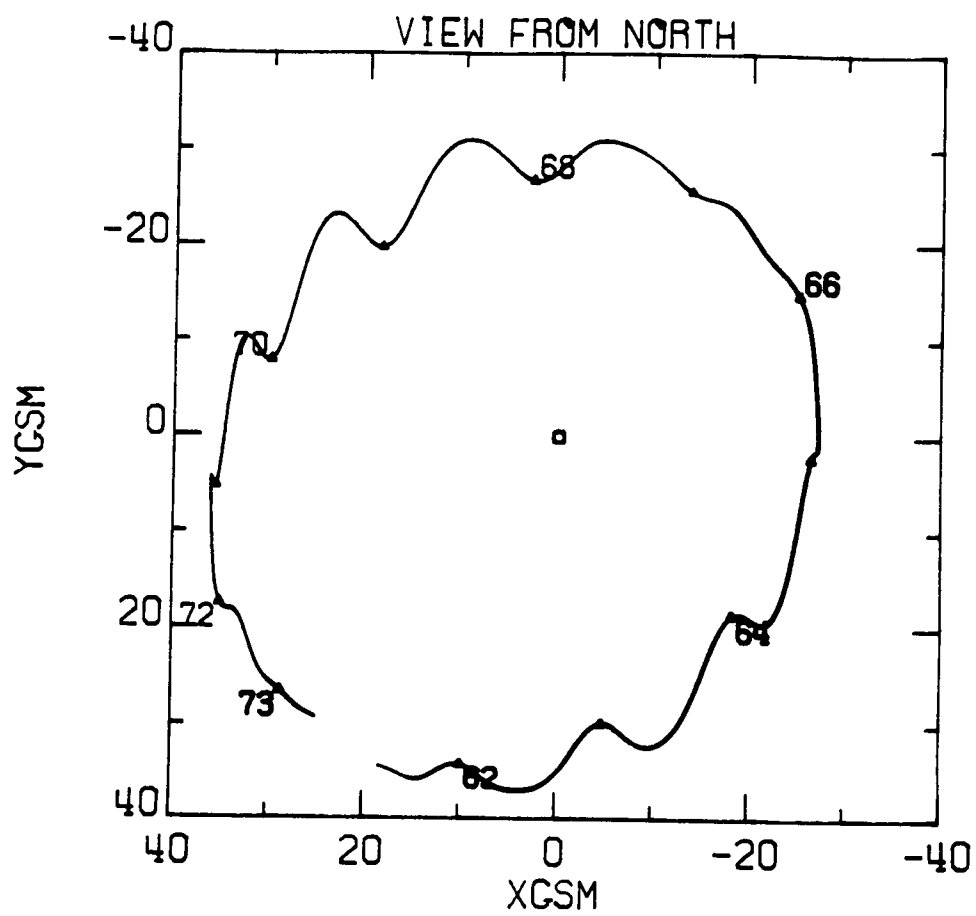
IMP 7 TRAJECTORY. ASCENDING NODE 133

FROM FEB 18 TO MAR 2 1977

DAYS 49 THRU 61



IMP 7 FROM MAR 2 TO MAR 14 1977



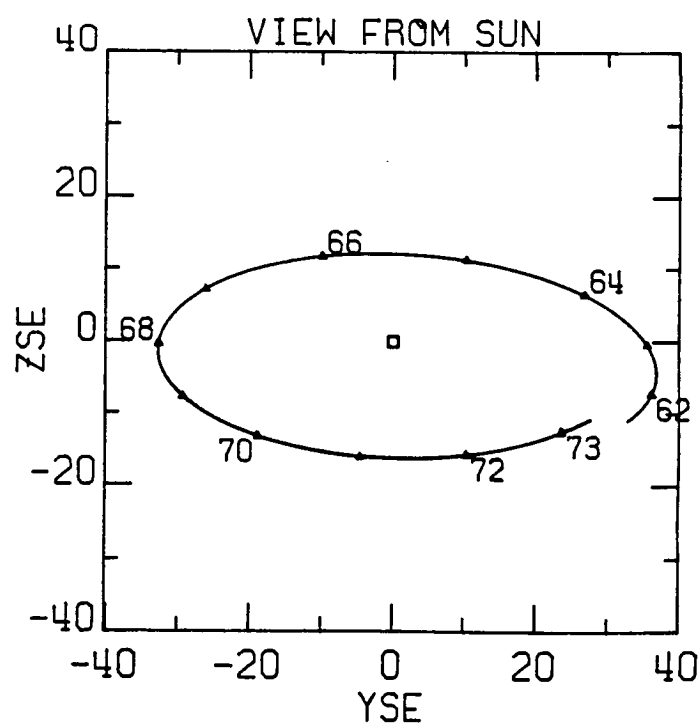
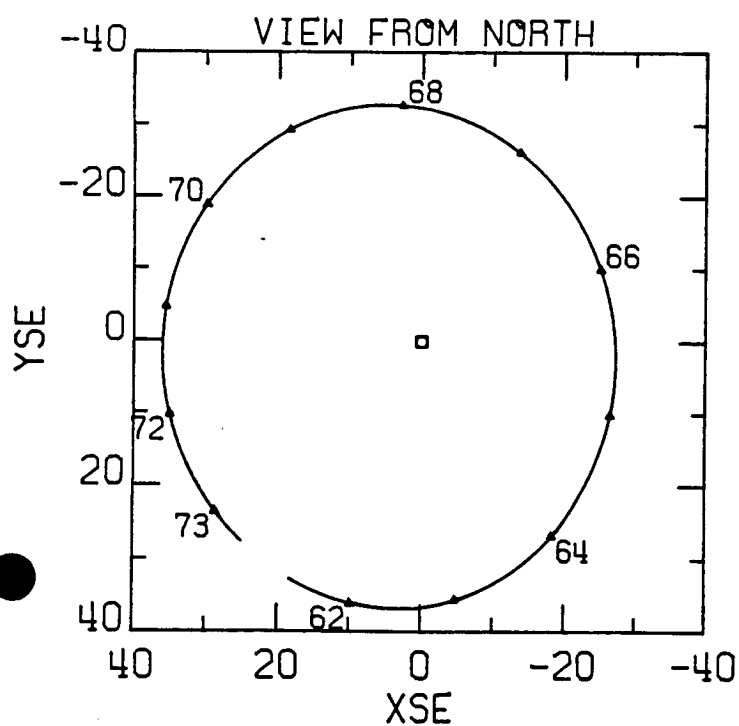
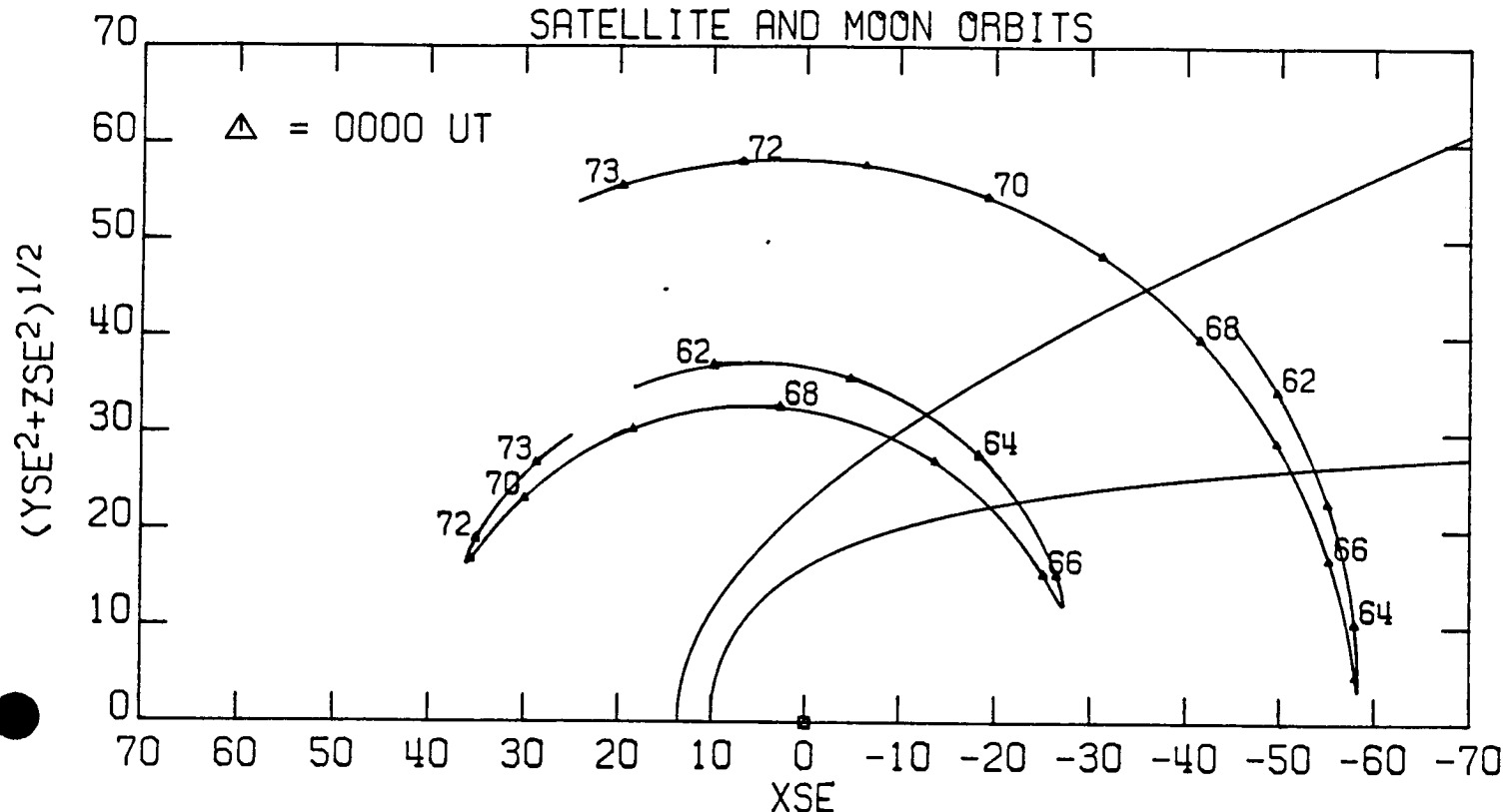
IMP 7 TRAJECTORY.

ASCENDING NODE 134

FROM MAR 2 TO MAR 14 1977

DAYS 61 THRU 73

SATELLITE AND MOON ORBITS

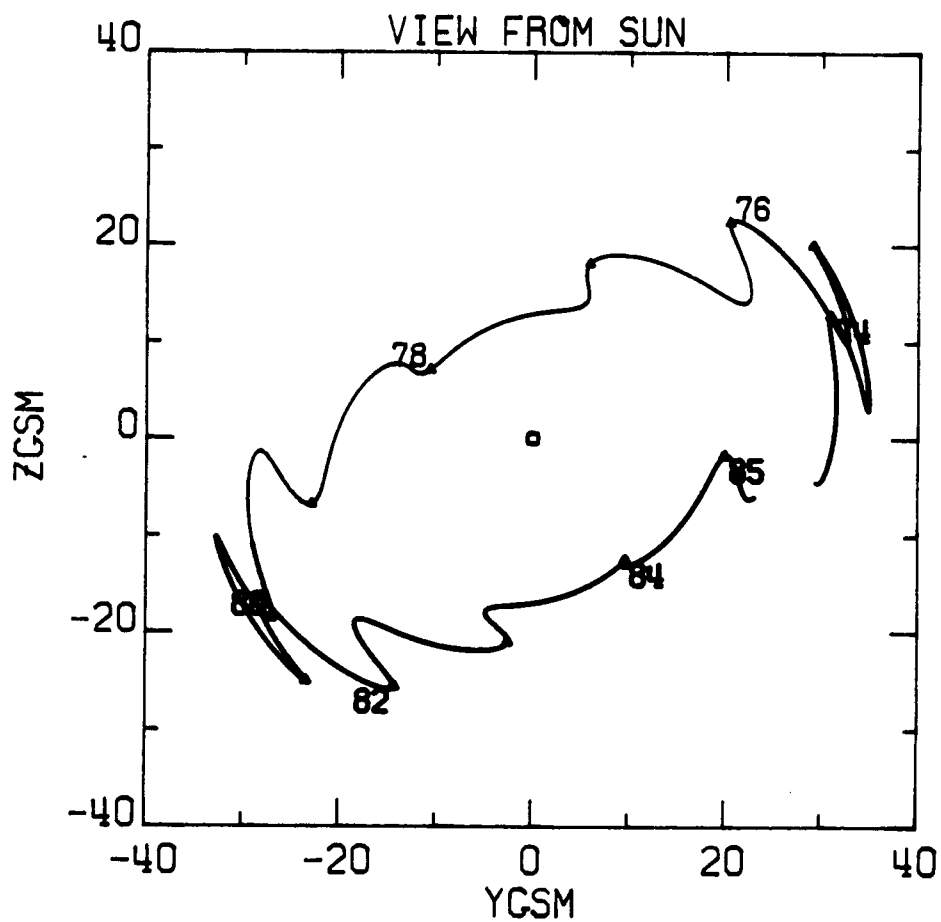
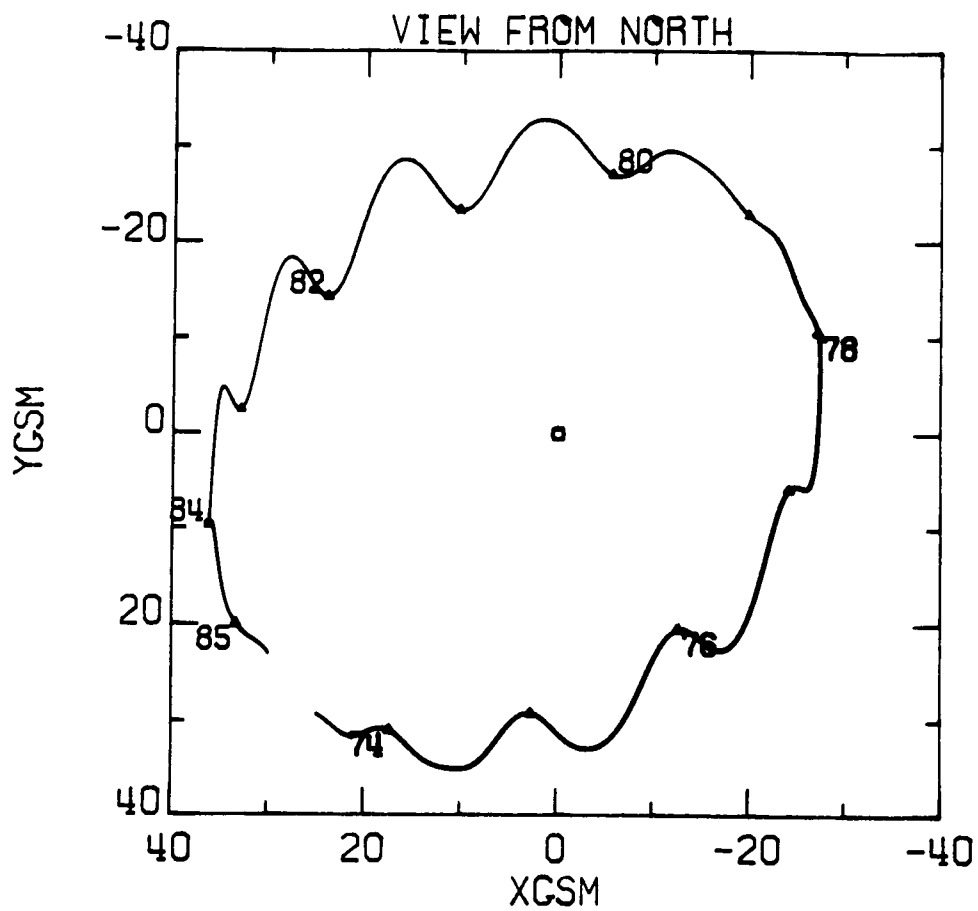


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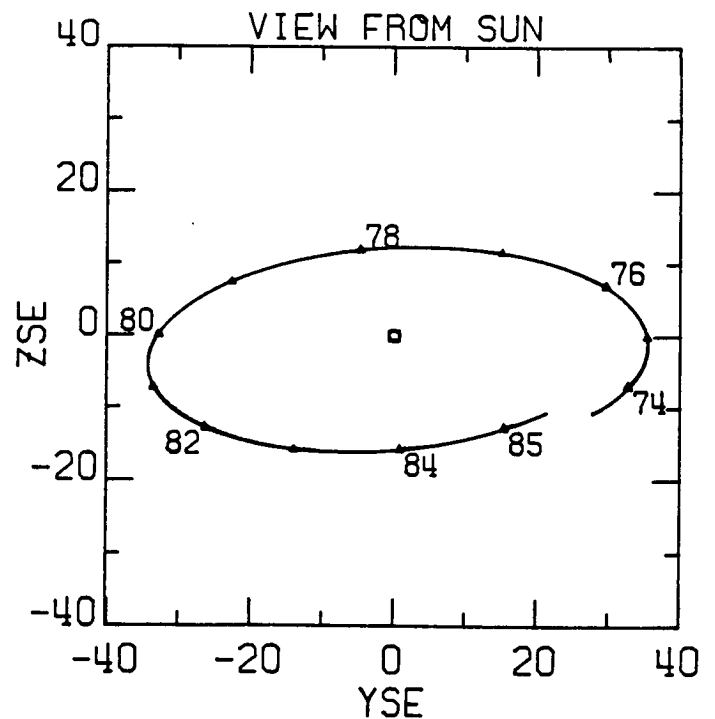
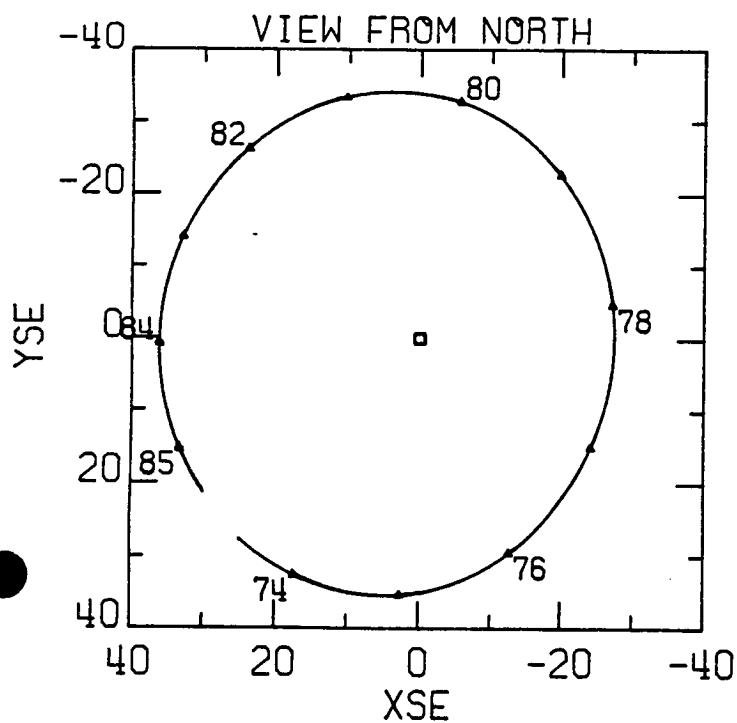
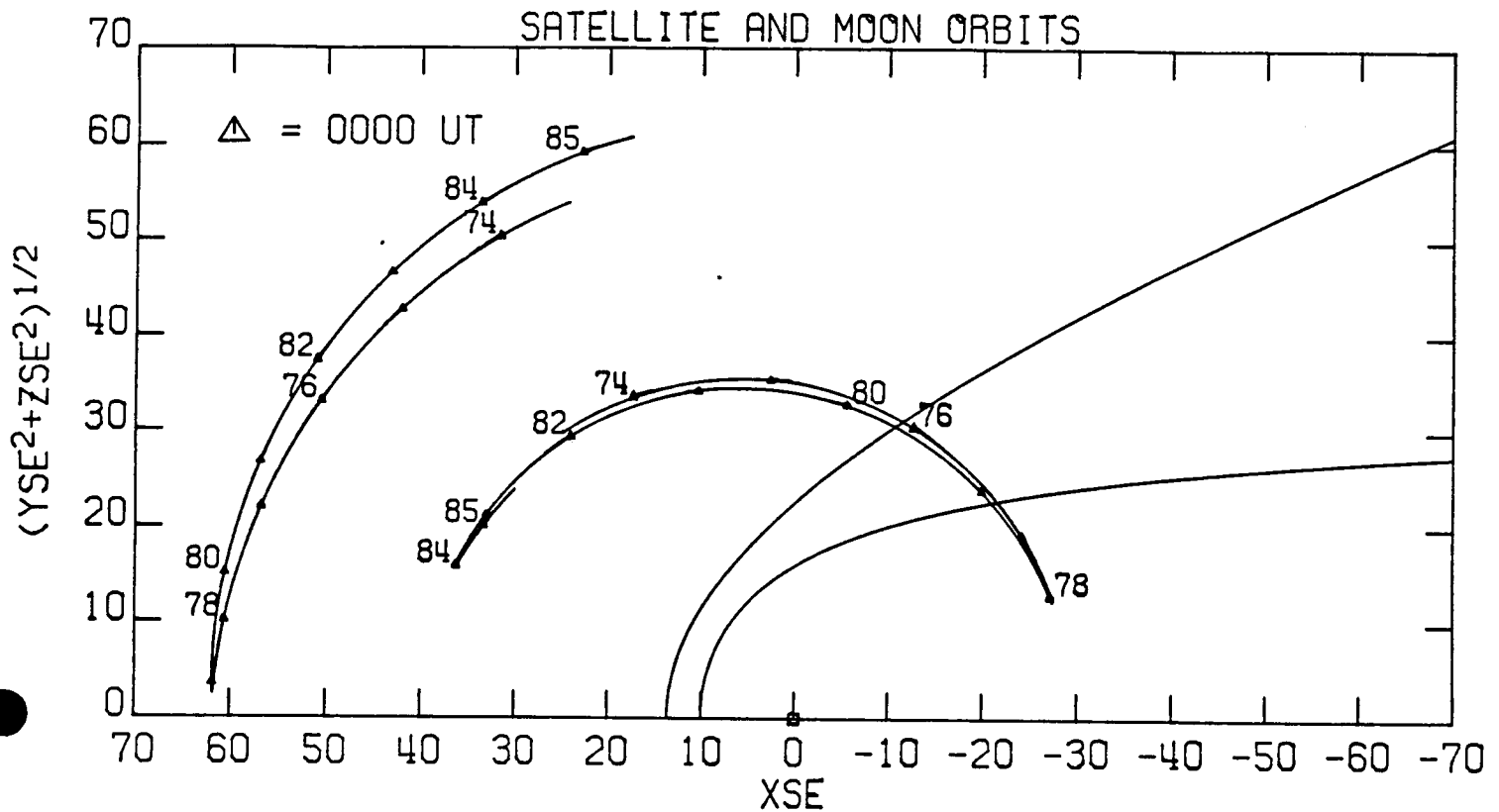
IMP 7 FROM MAR 14 TO MAR 26 1977



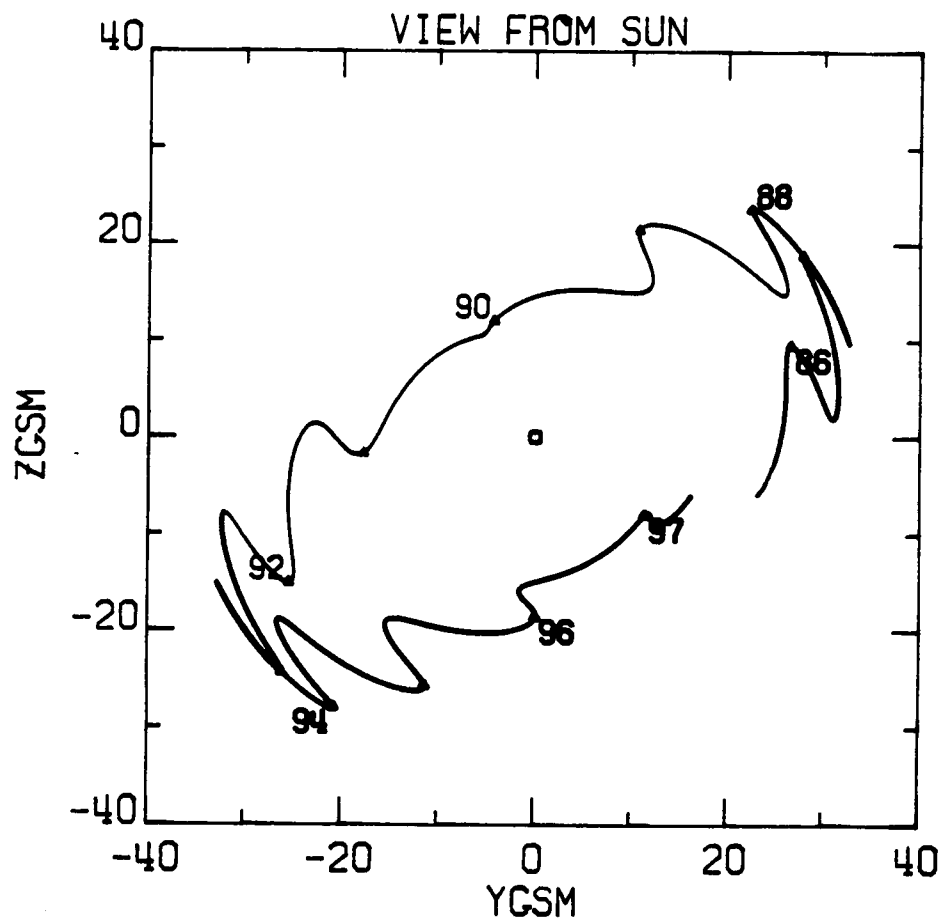
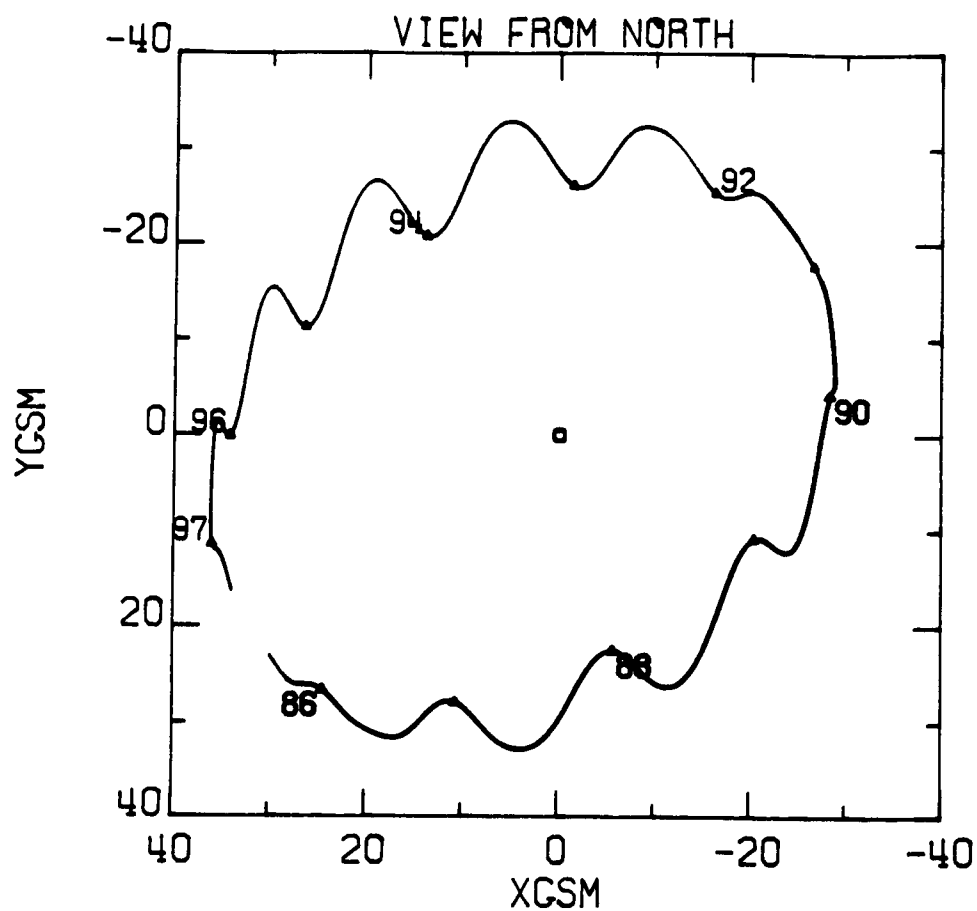
IMP 7 TRAJECTORY. ASCENDING NODE 135

FROM MAR 14 TO MAR 26 1977

DAYS 73 THRU 85



IMP 7 FROM MAR 26 TO APR 7 1977

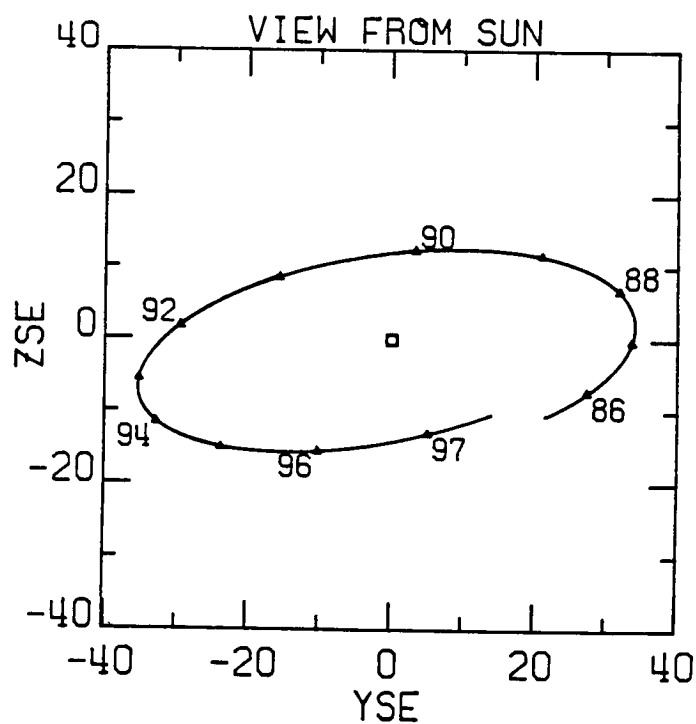
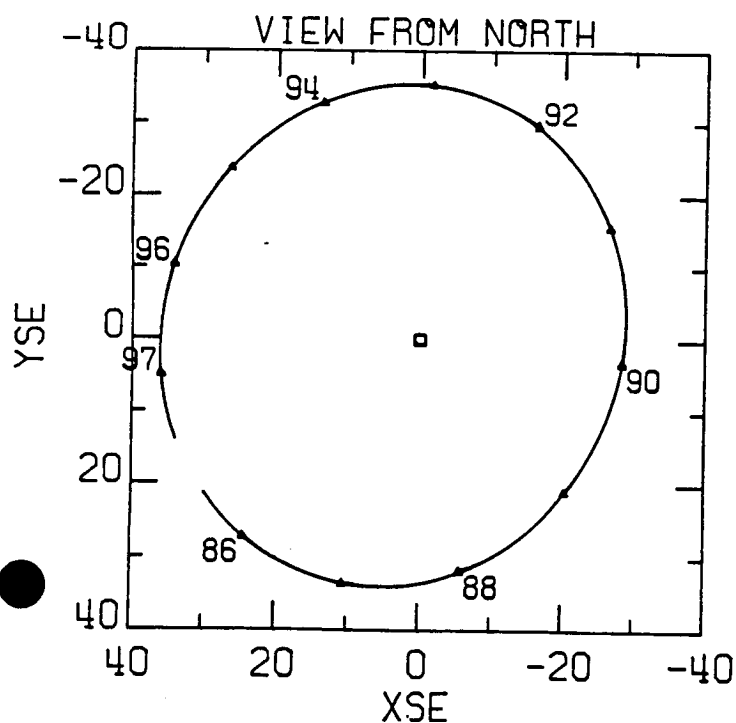
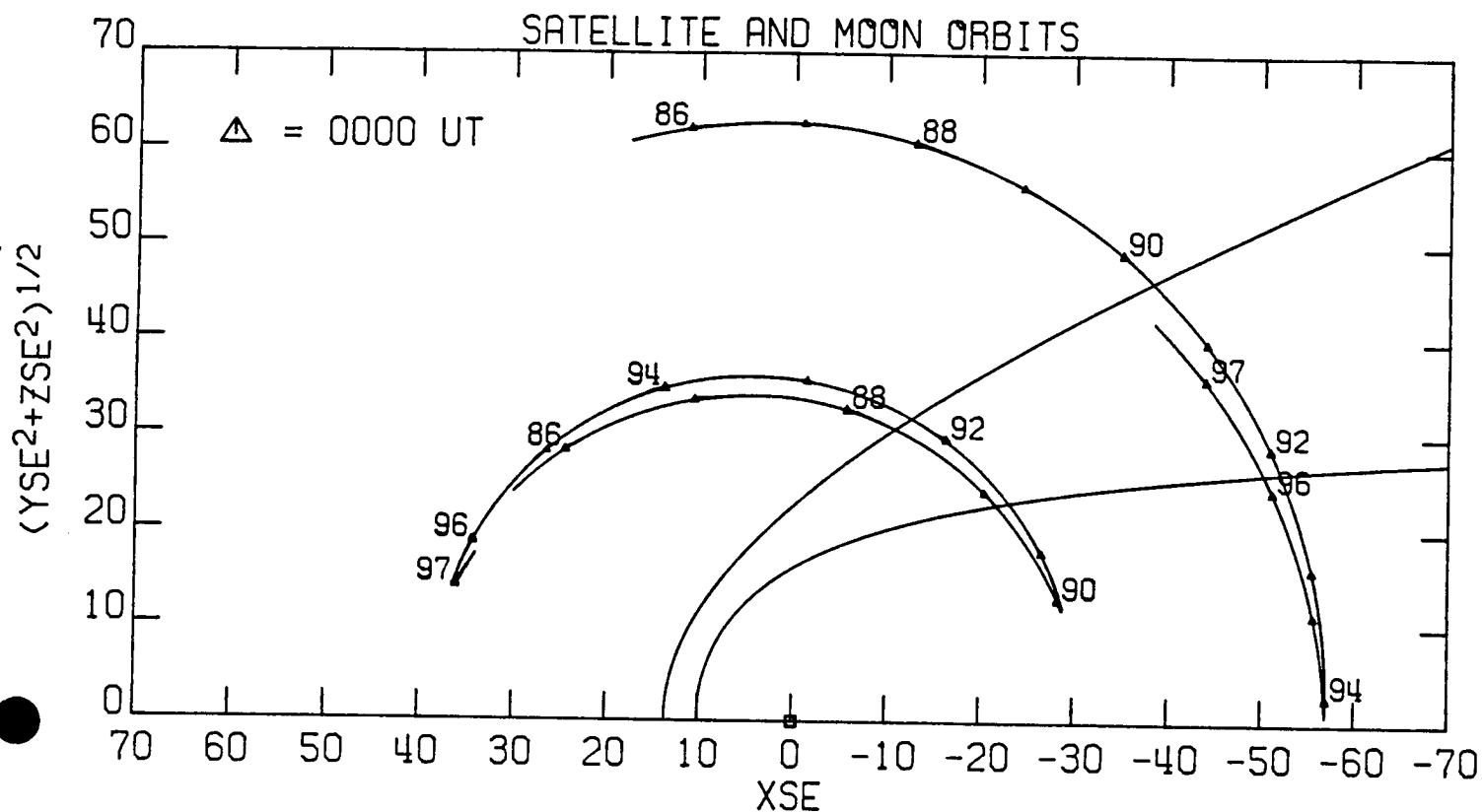


IMP 7 TRAJECTORY.

ASCENDING NODE 136

FROM MAR 26 TO APR 7 1977

DAYS 85 THRU 97

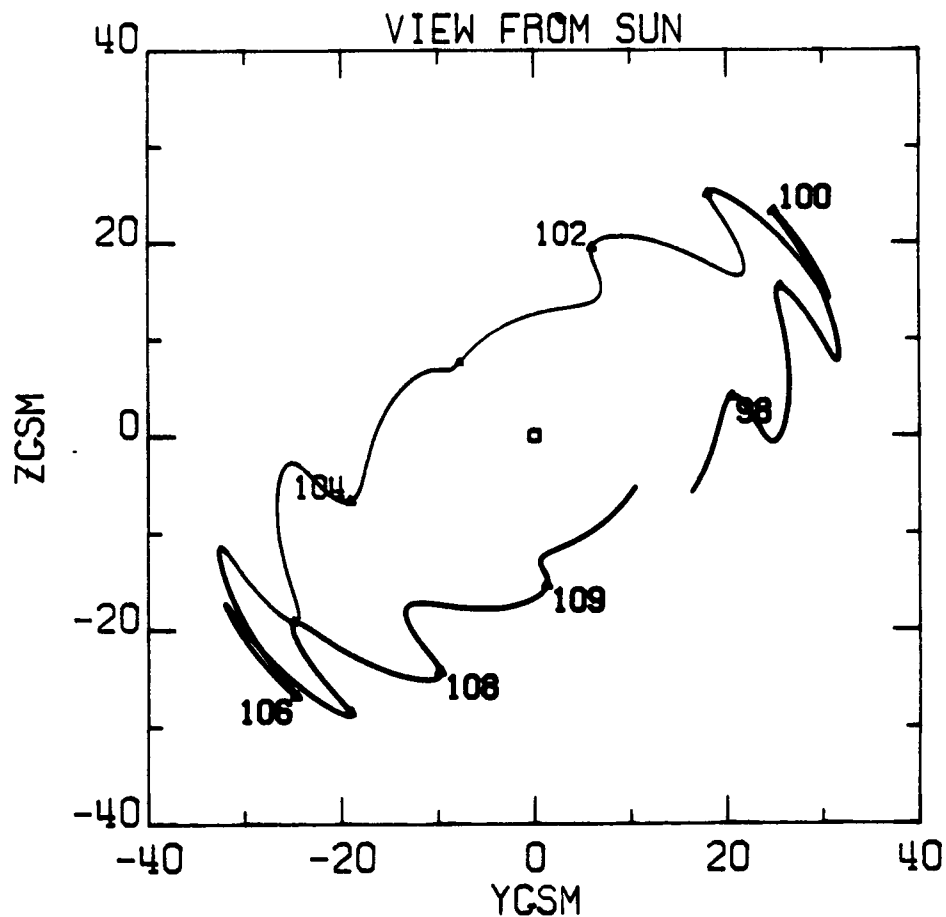
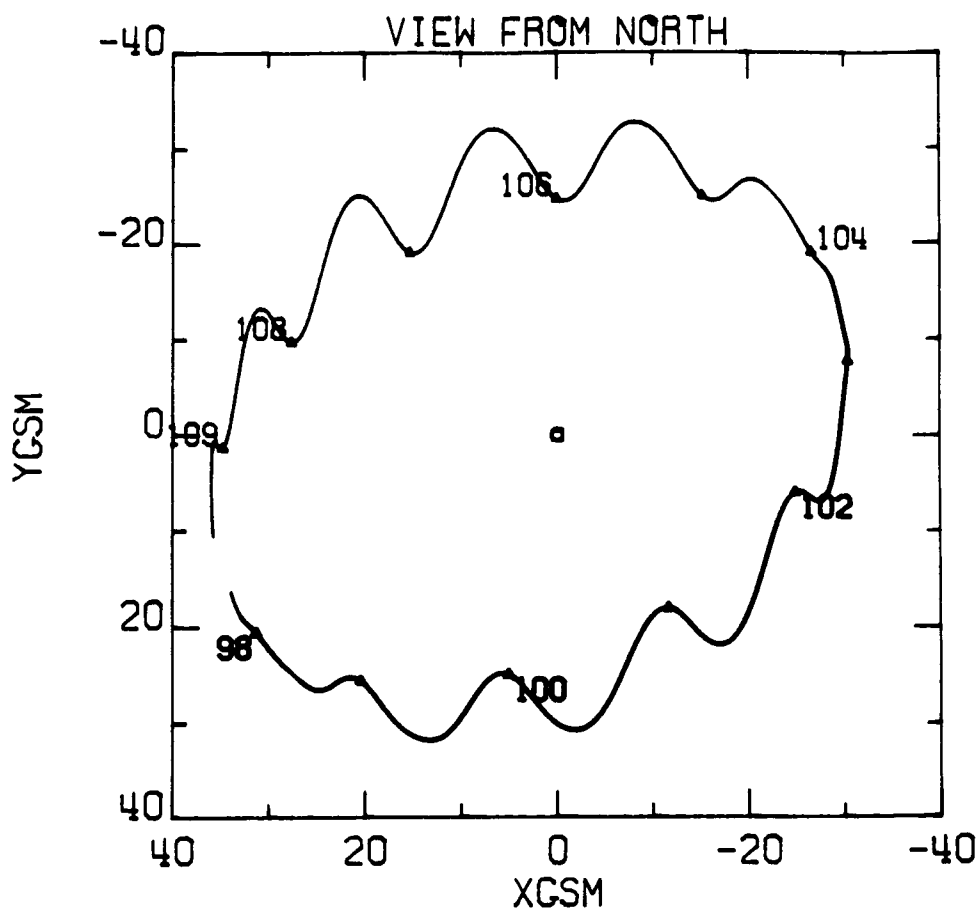


CSRIMP90

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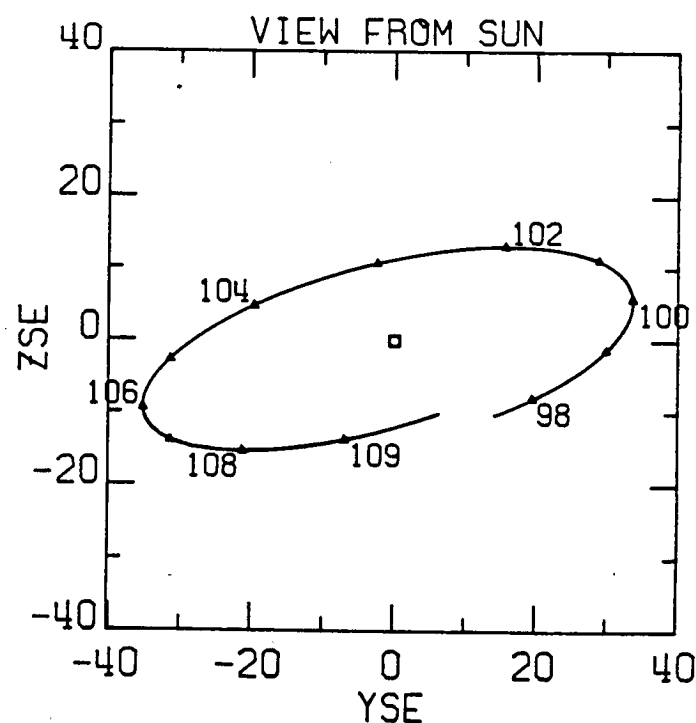
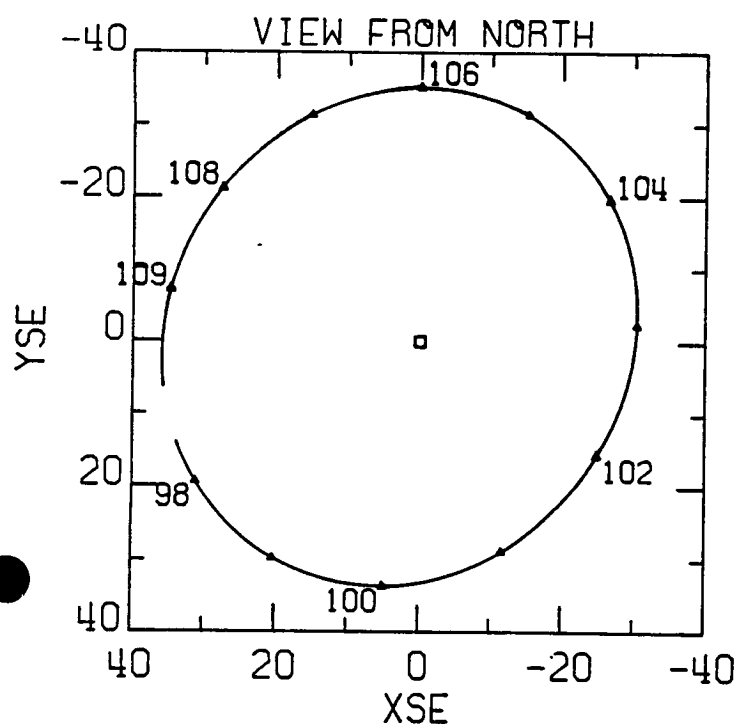
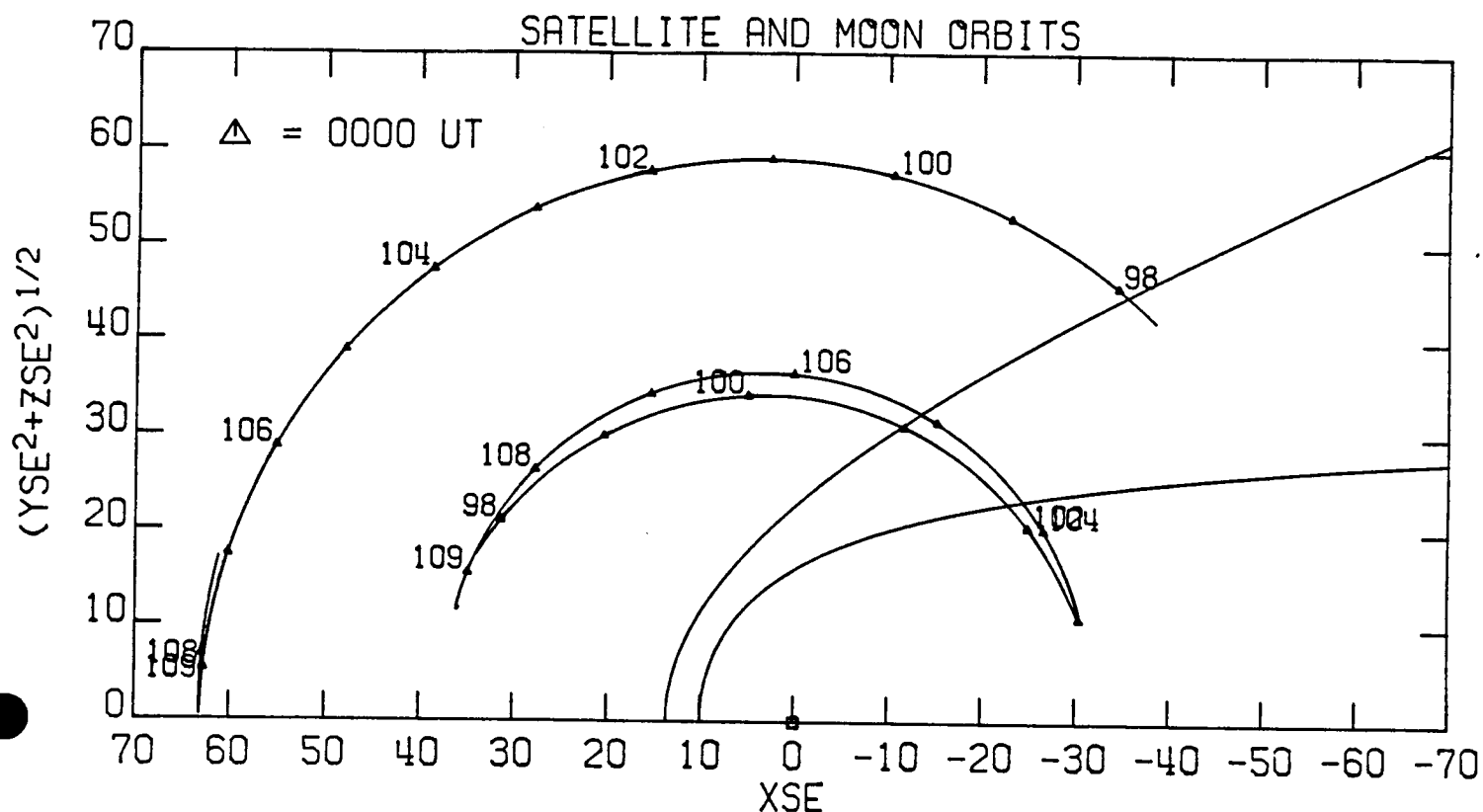
IMP 7 FROM APR 7 TO APR 19 1977



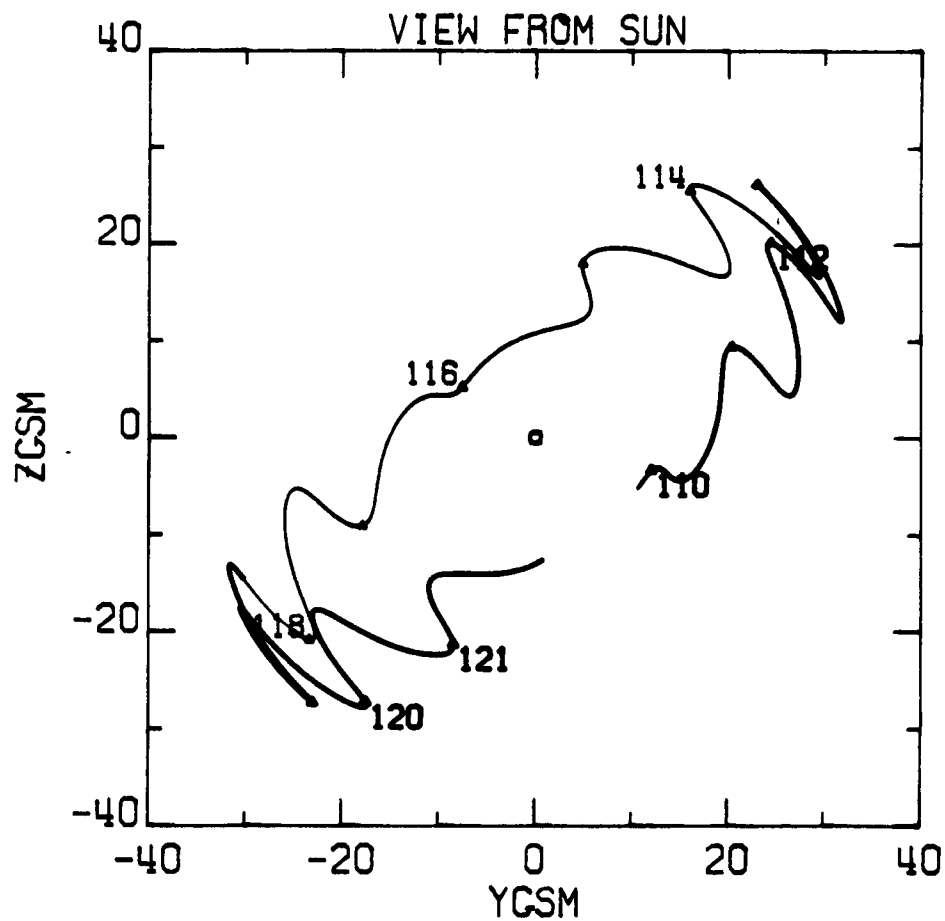
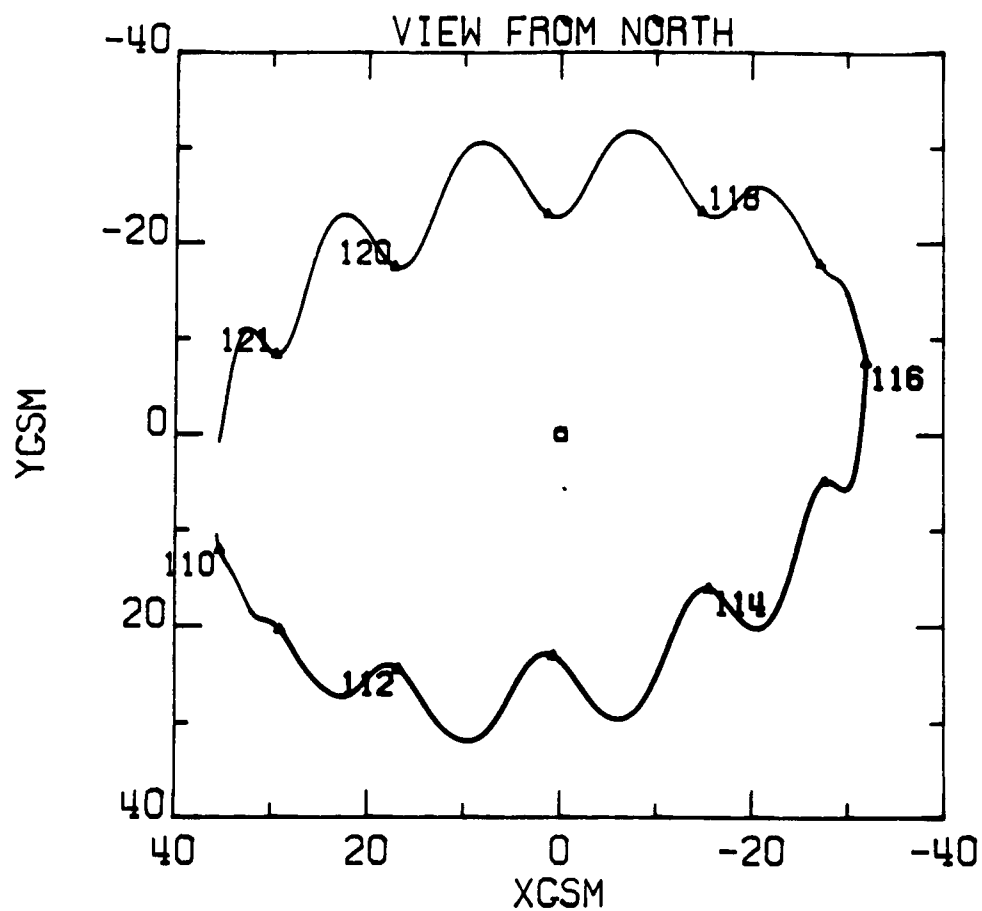
IMP 7 TRAJECTORY. ASCENDING NODE 137

FROM APR 7 TO APR 19 1977

DAYS 97 THRU 109



IMP 7 FROM APR 19 TO MAY 2 1977

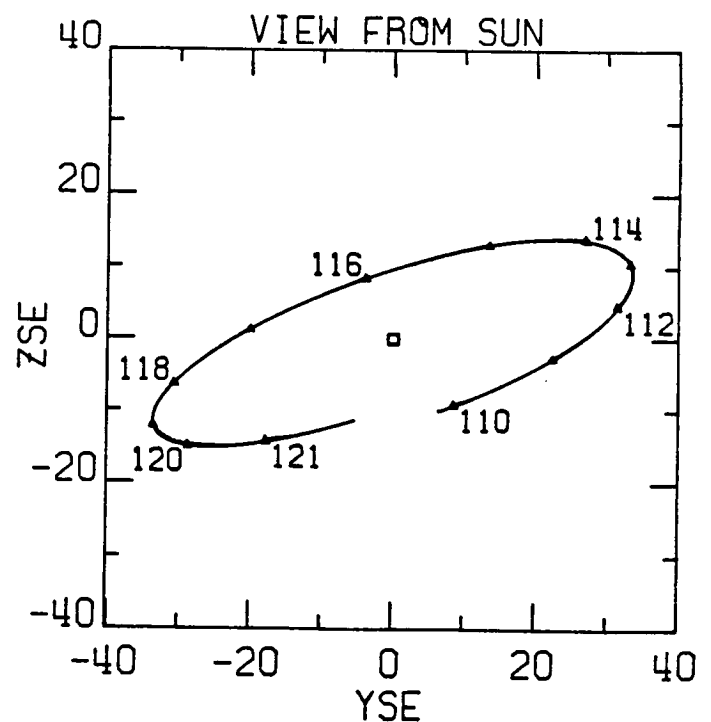
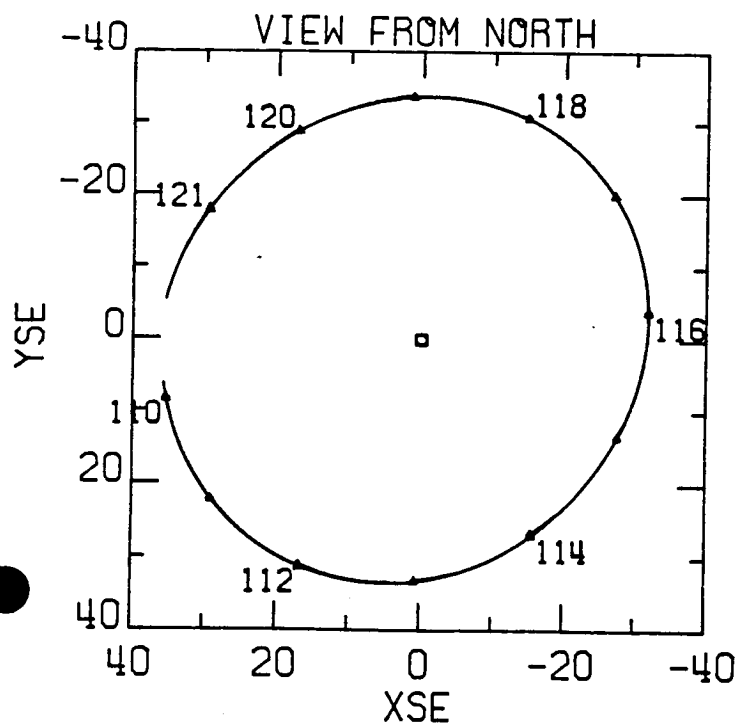
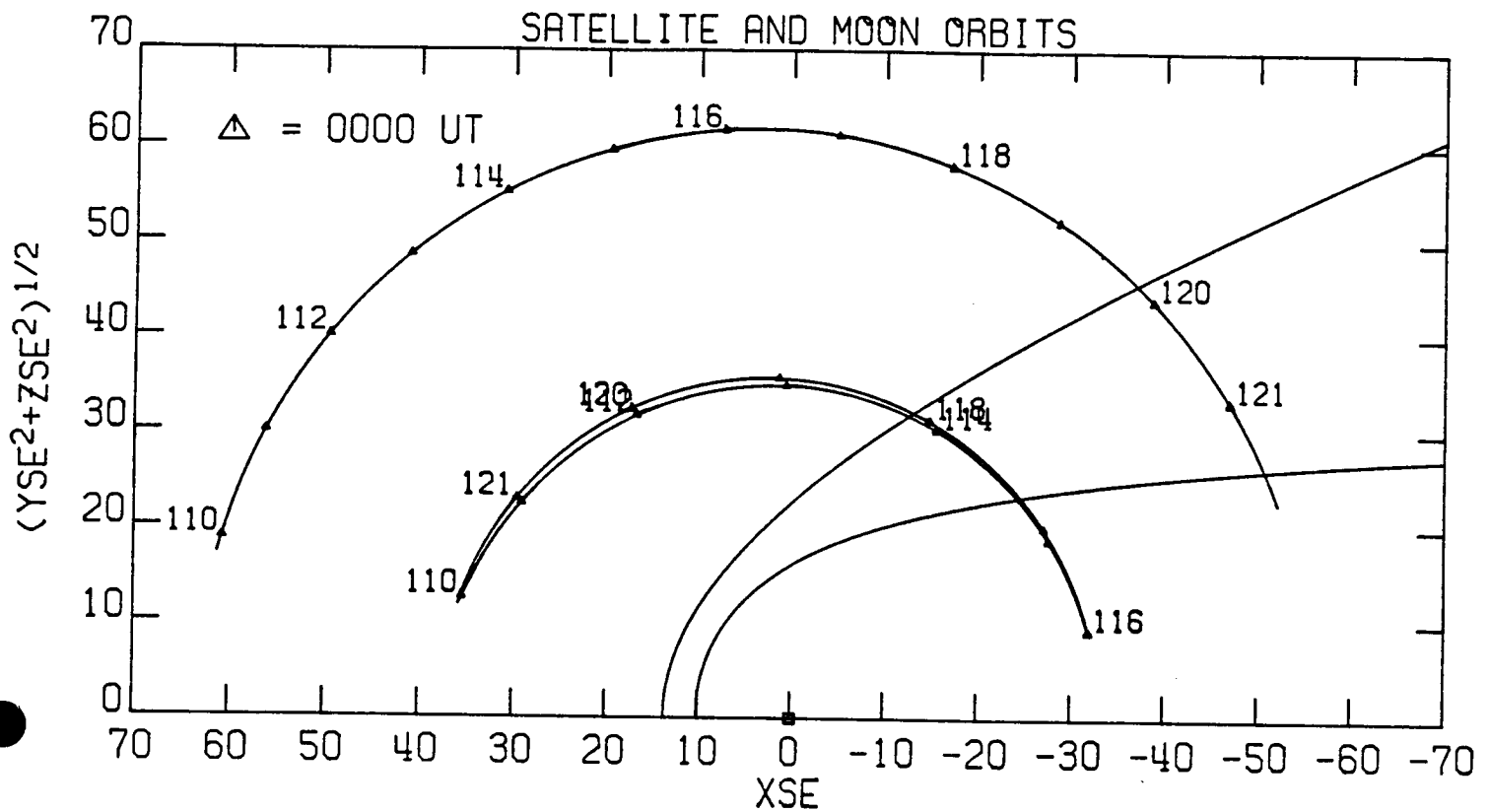


IMP 7 TRAJECTORY.

ASCENDING NODE 138

FROM APR 19 TO MAY 2 1977

DAYS 109 THRU 121

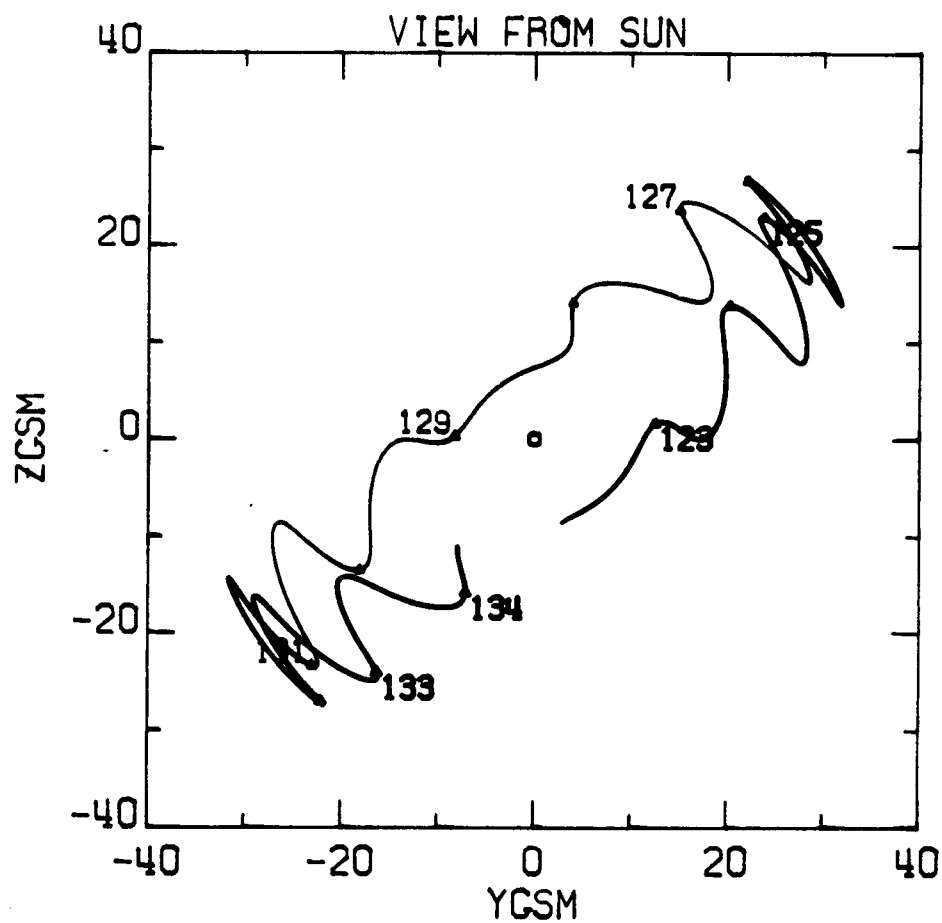
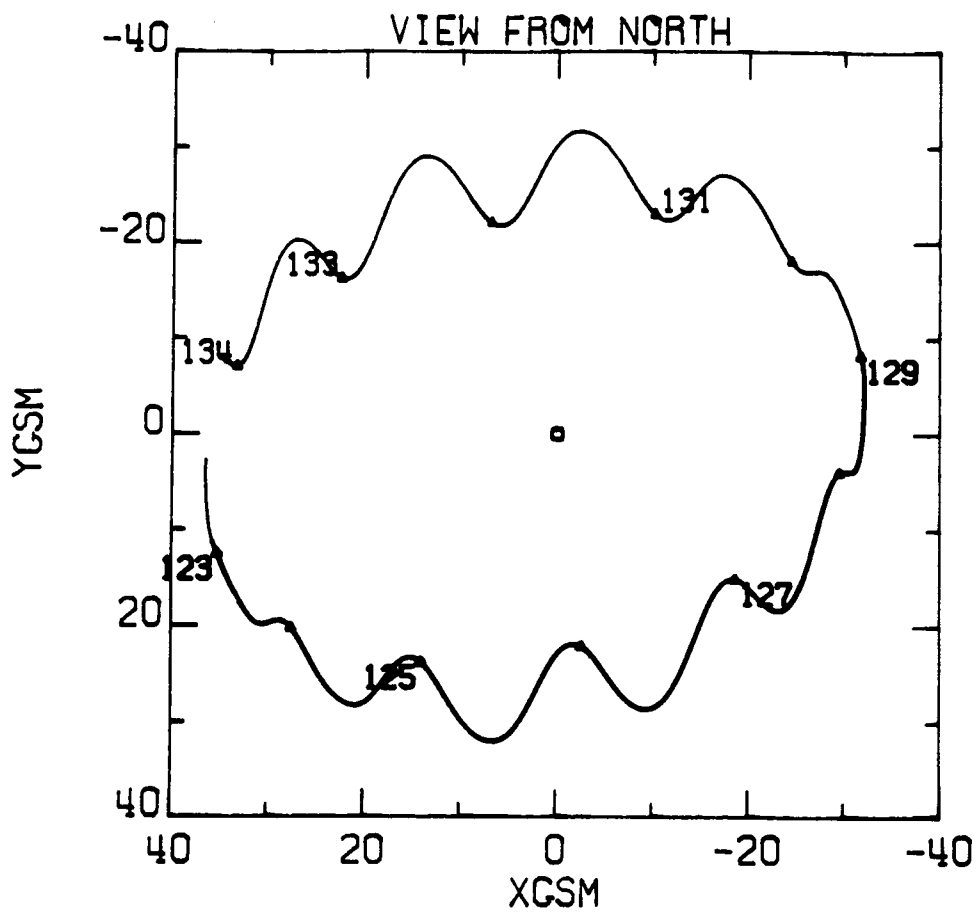


PERTURBATION

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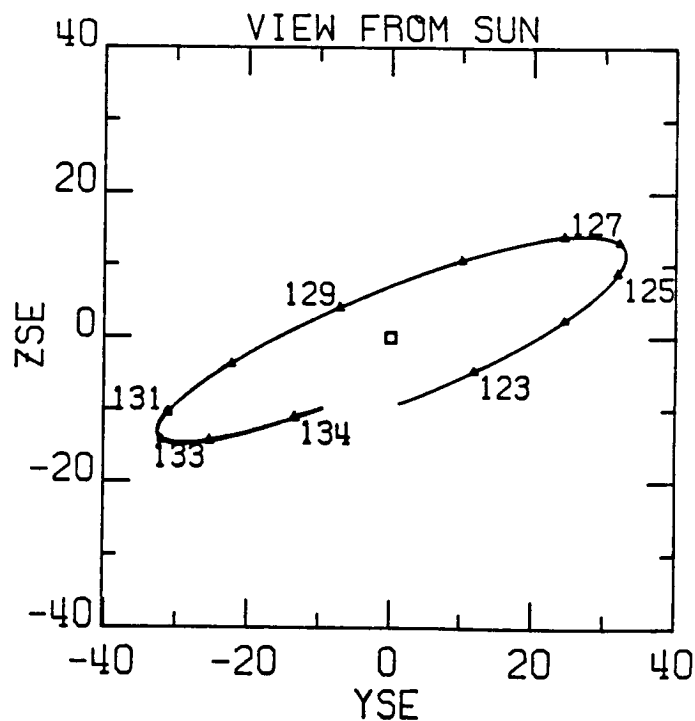
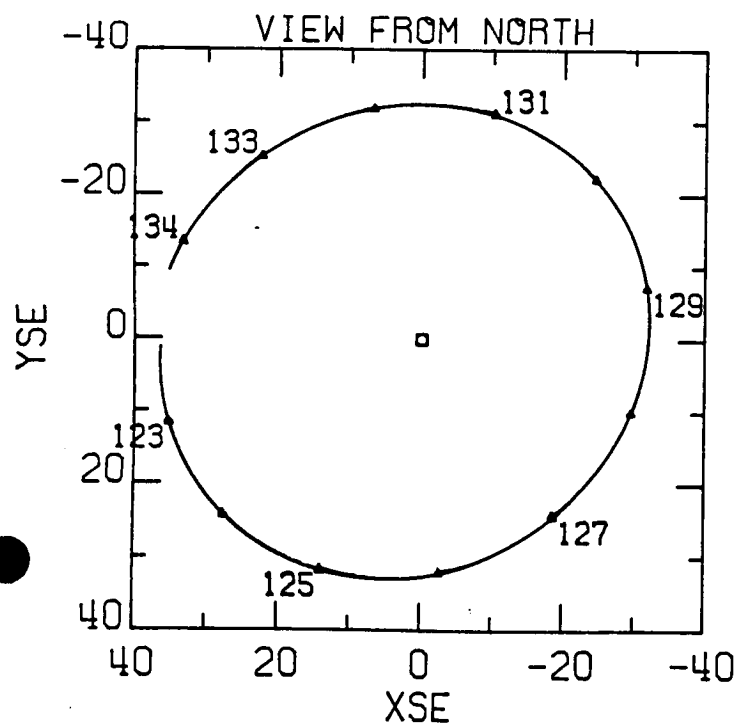
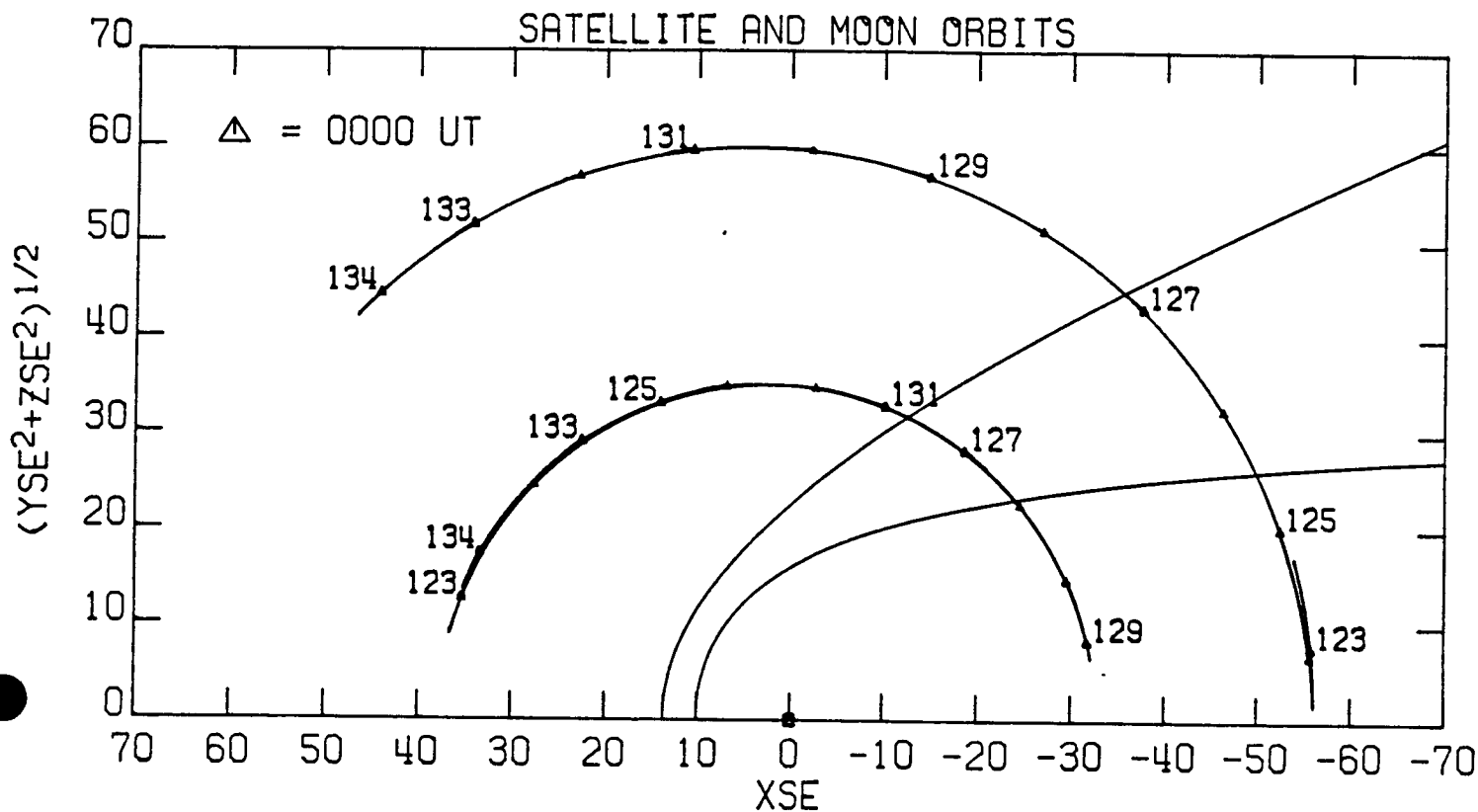
IMP 7 FROM MAY 2 TO MAY 14 1977



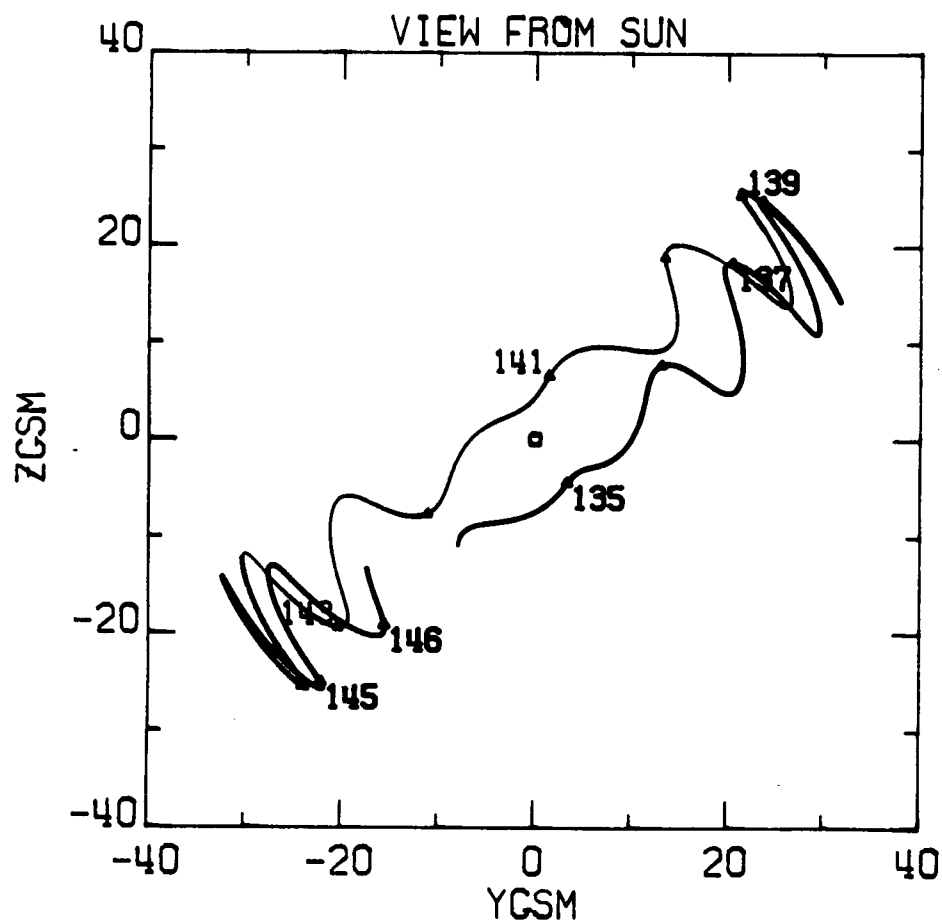
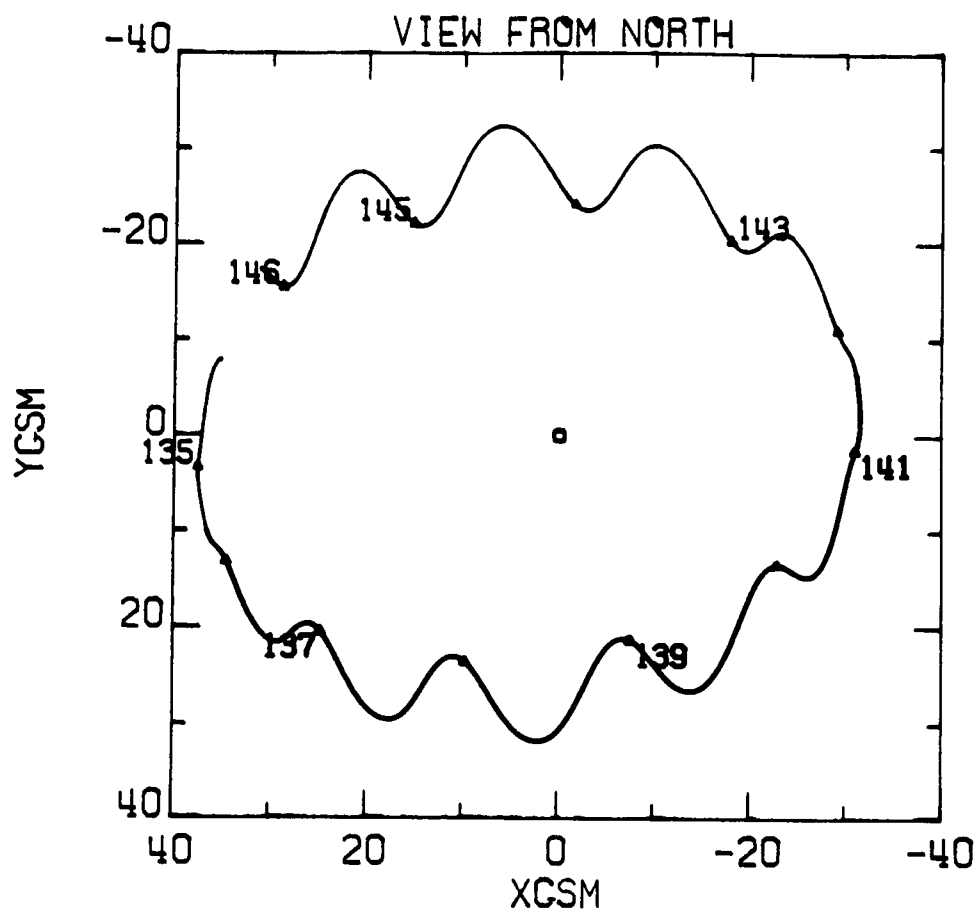
IMP 7 TRAJECTORY. ASCENDING NODE 139

FROM MAY 2 TO MAY 14 1977

DAYS 122 THRU 134



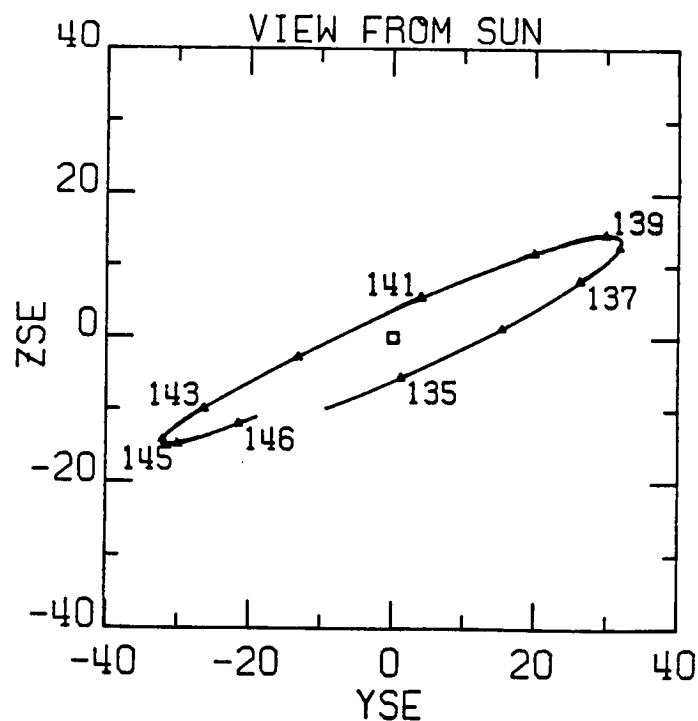
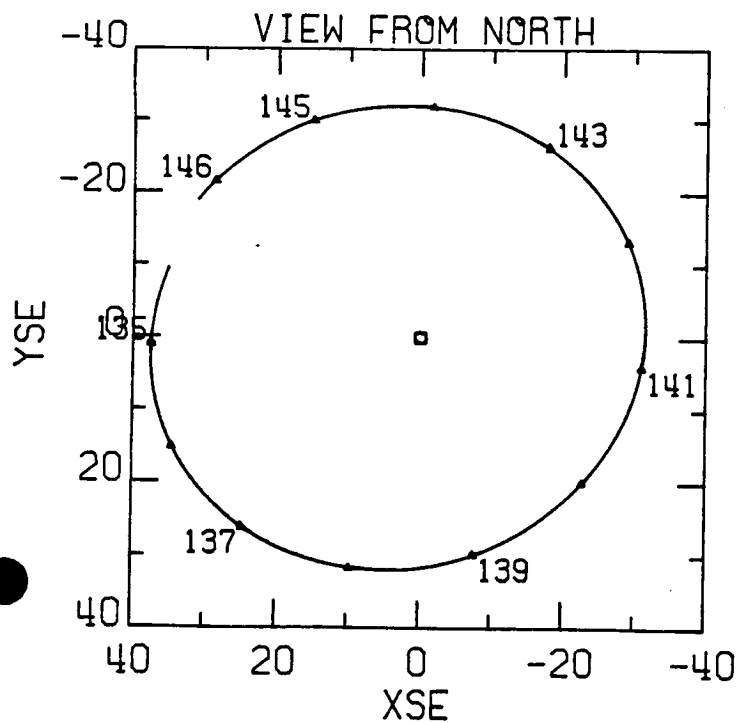
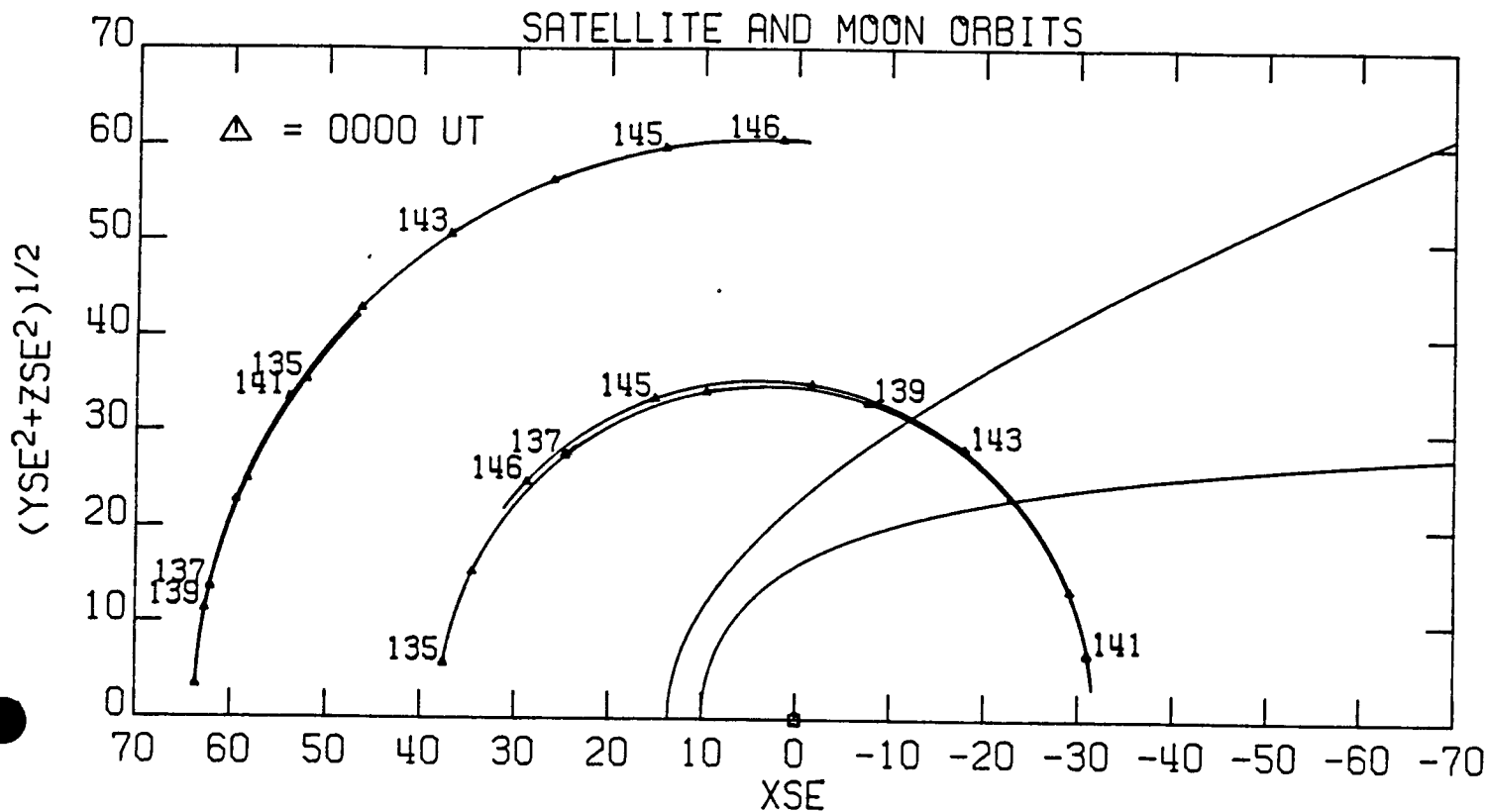
IMP 7 FROM MAY 14 TO MAY 26 1977



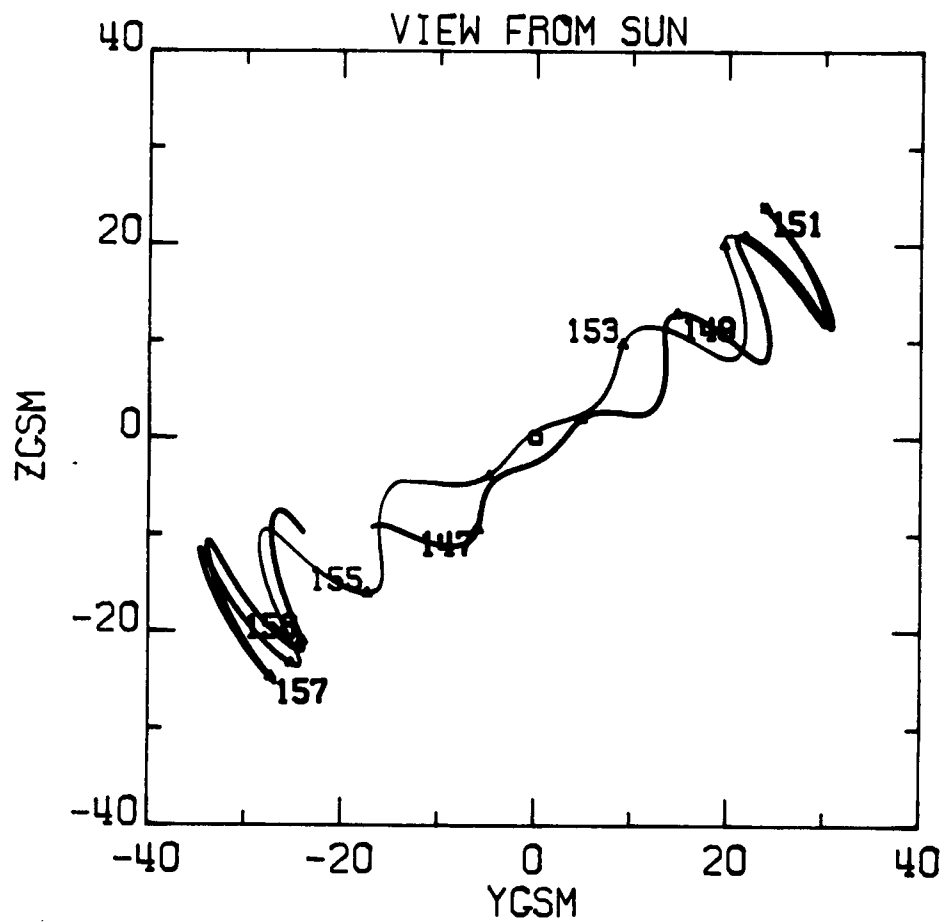
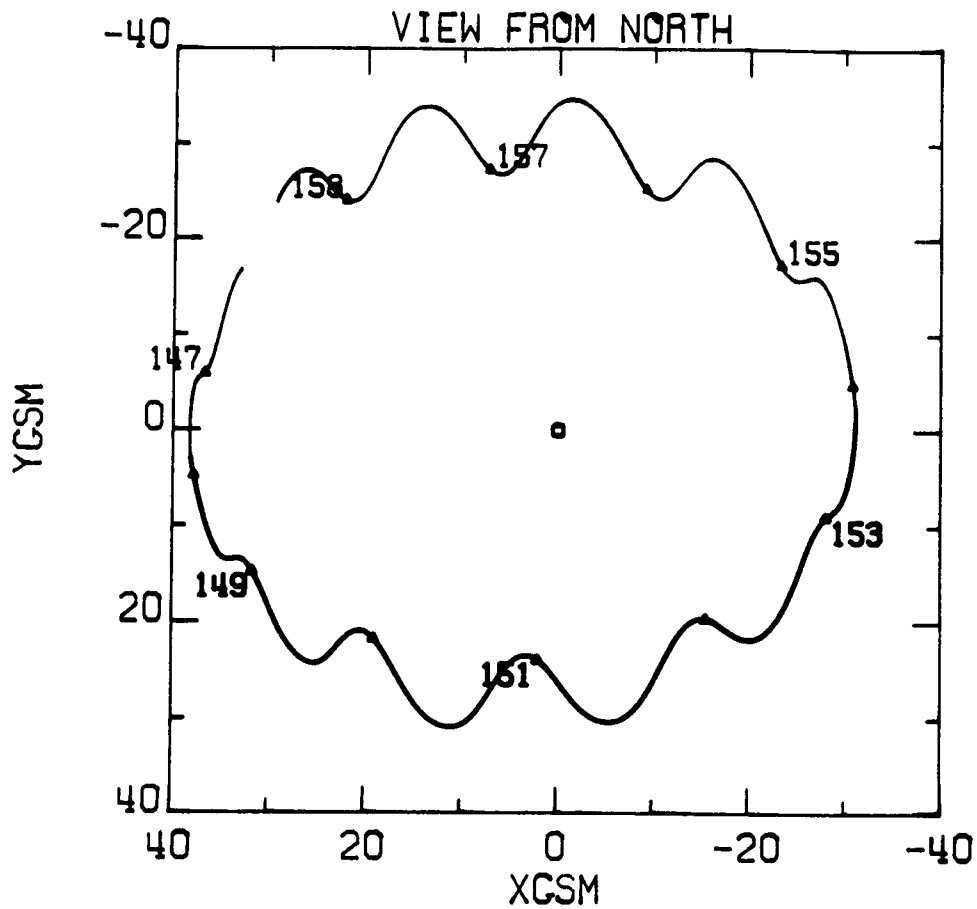
IMP 7 TRAJECTORY. ASCENDING NODE 140

FROM MAY 14 TO MAY 26 1977

DAYS 134 THRU 146



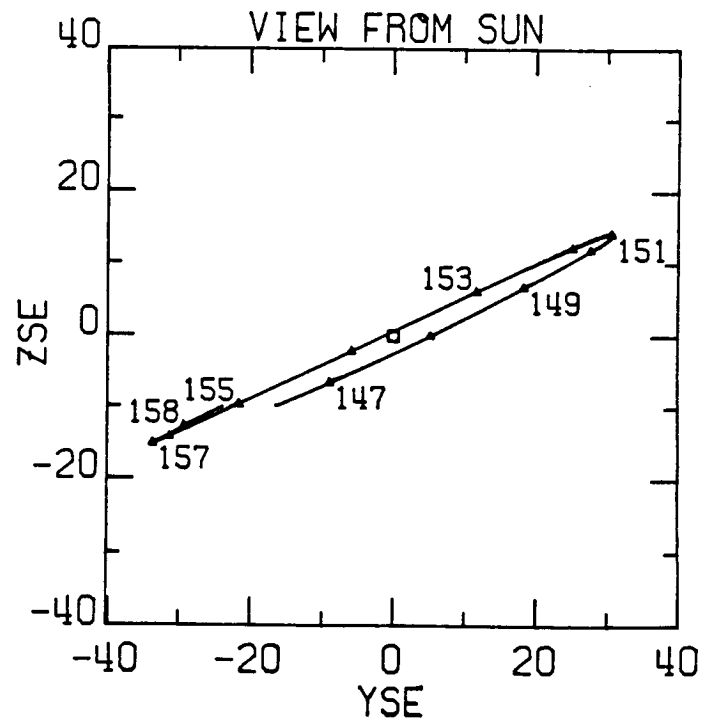
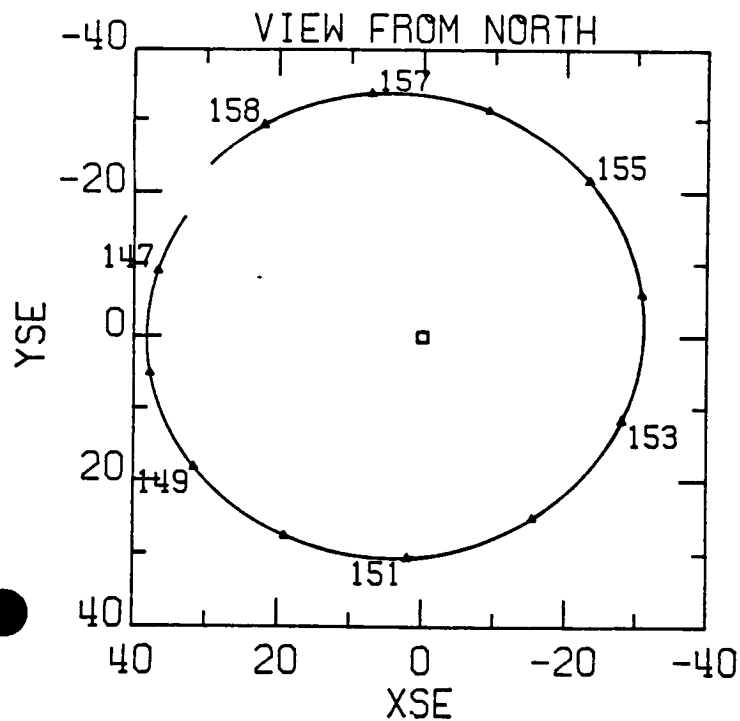
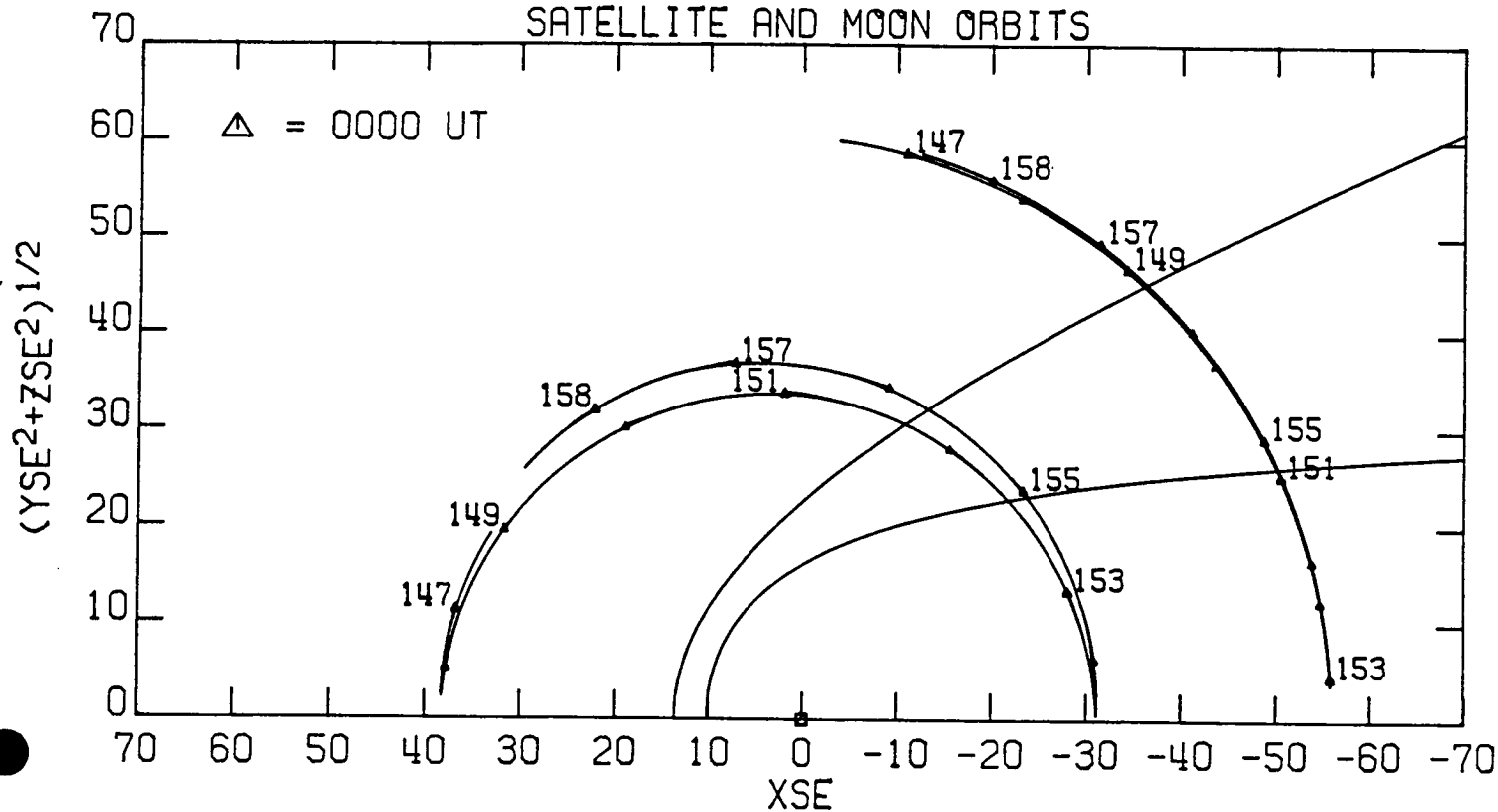
IMP 7 FROM MAY 26 TO JUN 7 1977



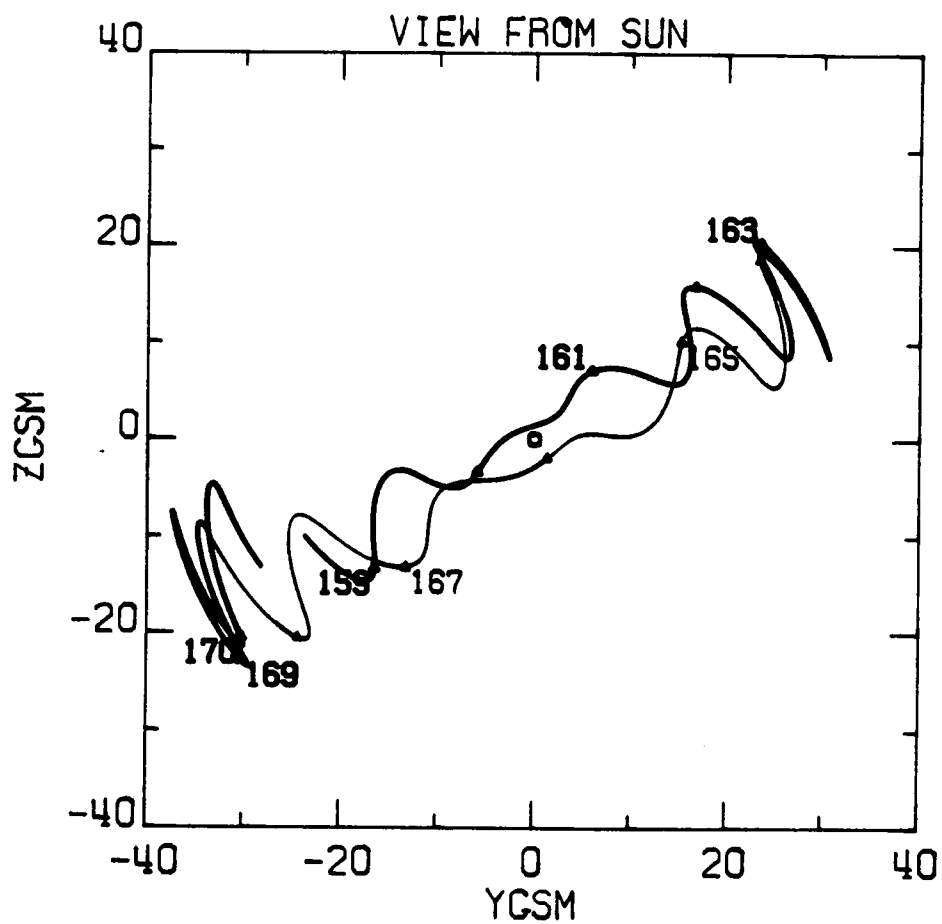
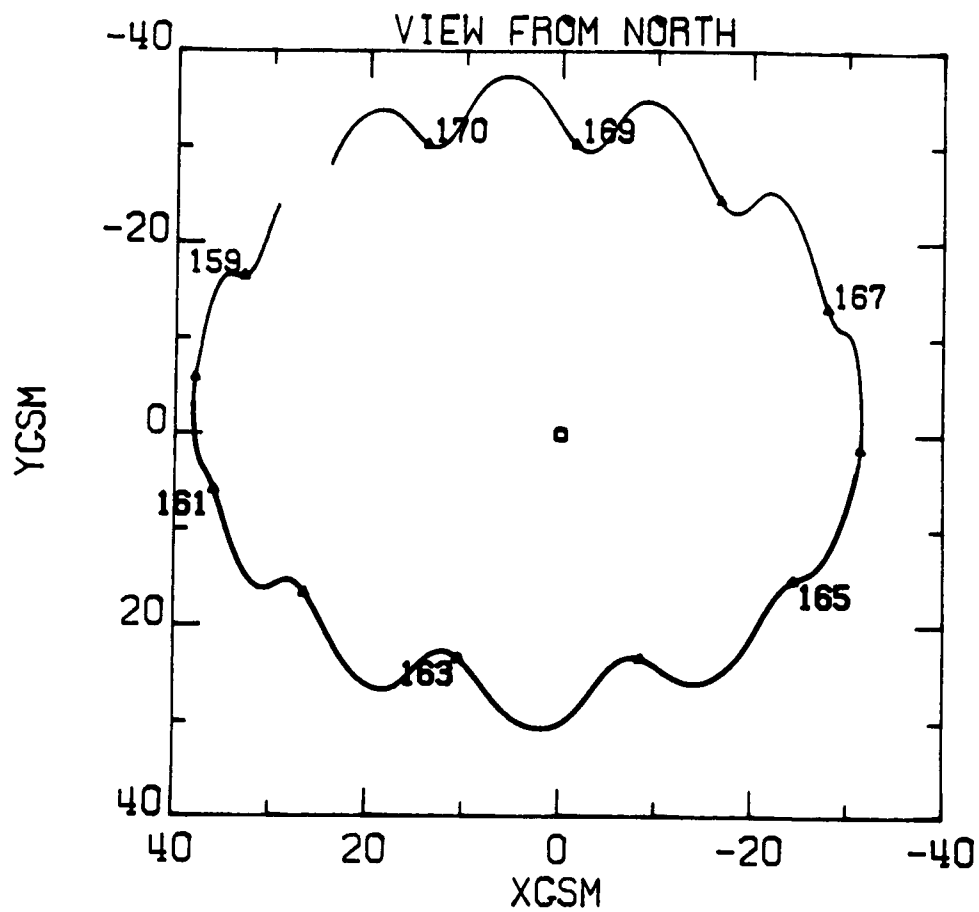
FROM MAY 26 TO JUN 7 1977

DAYS 146 THRU 158

SATELLITE AND MOON ORBITS

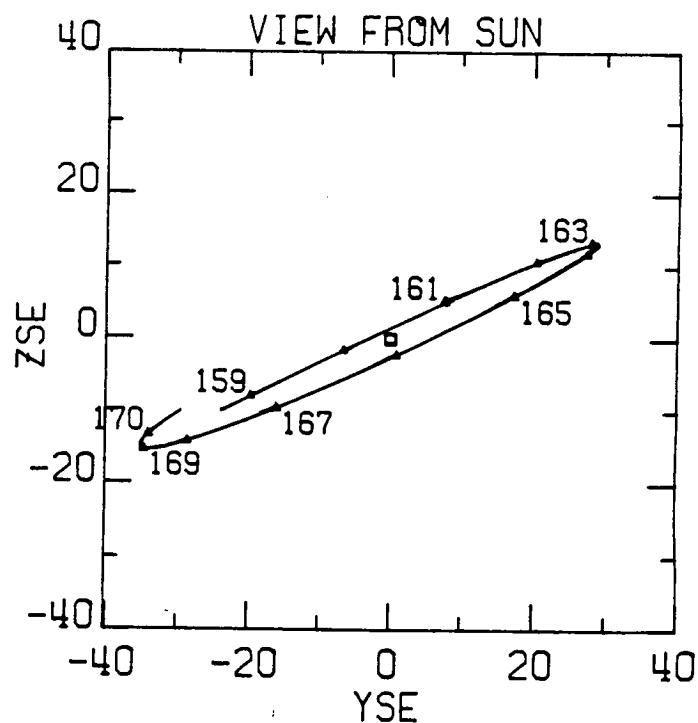
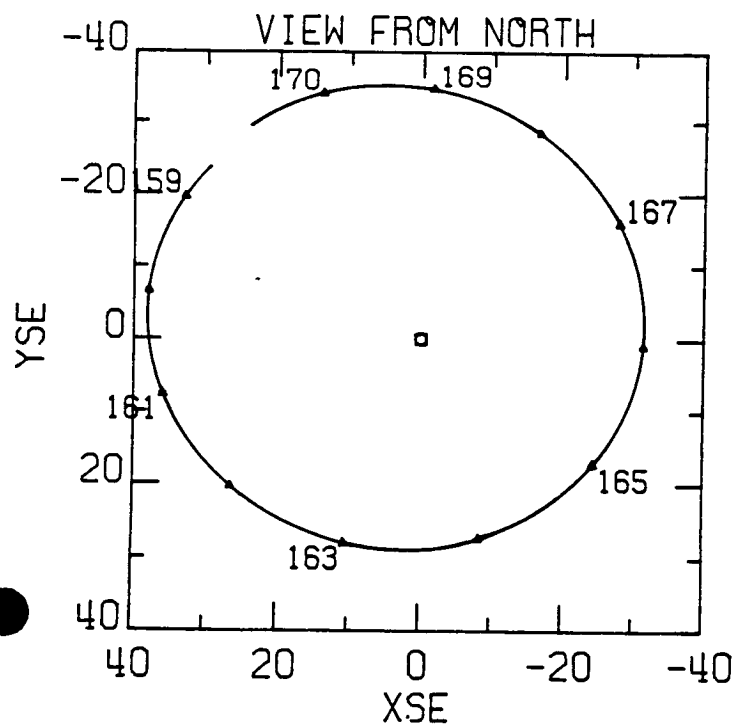
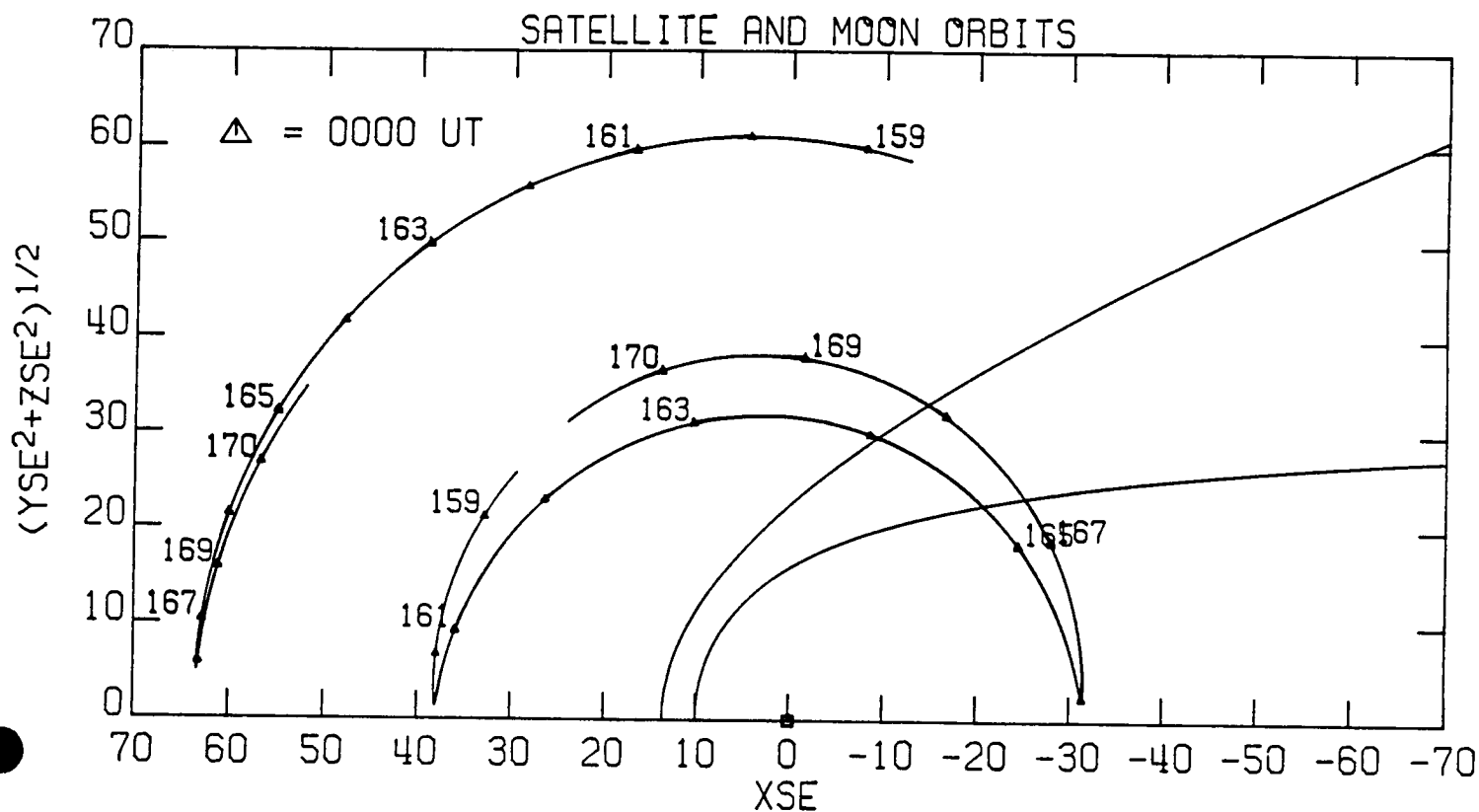


IMP 7 FROM JUN 7 TO JUN 19 1977

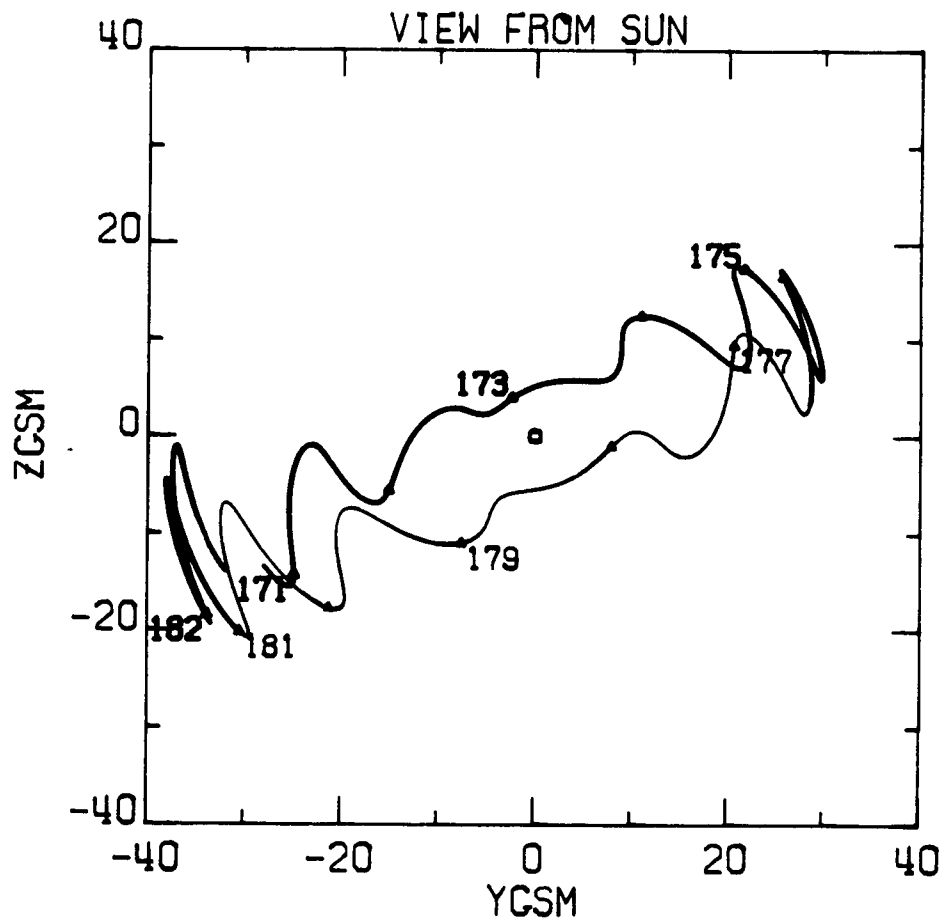
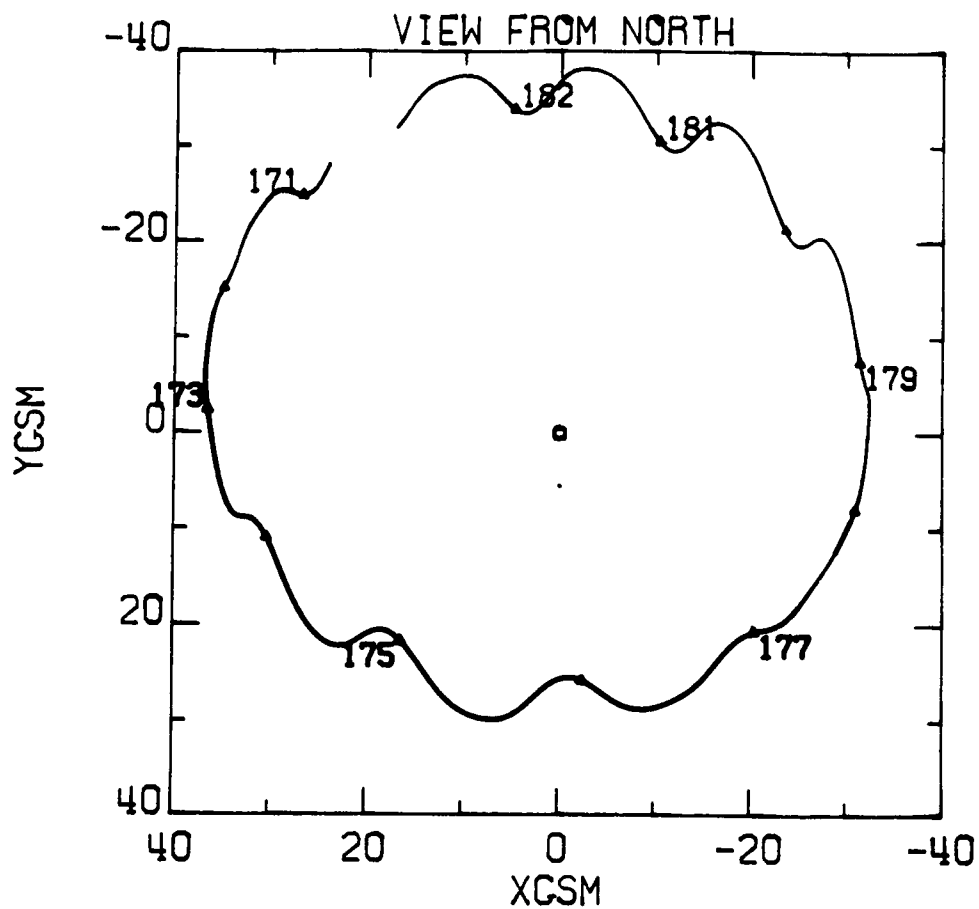


FROM JUN 7 TO JUN 19 1977

DAYS 158 THRU 170



IMP 7 FROM JUN 19 TO JUL 1 1977



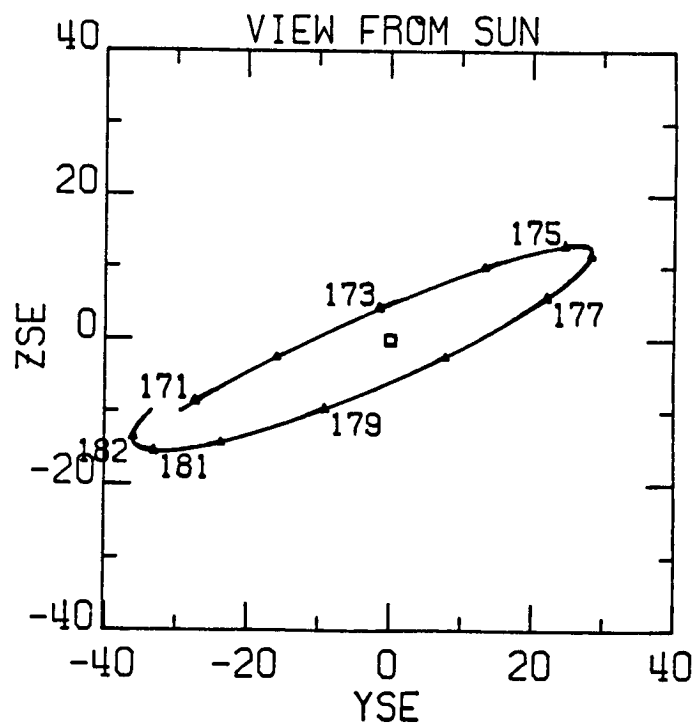
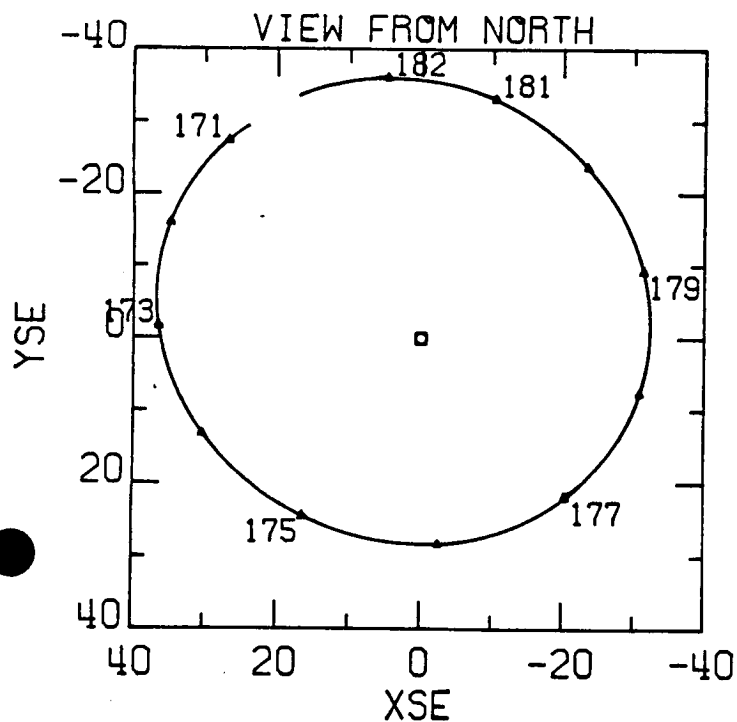
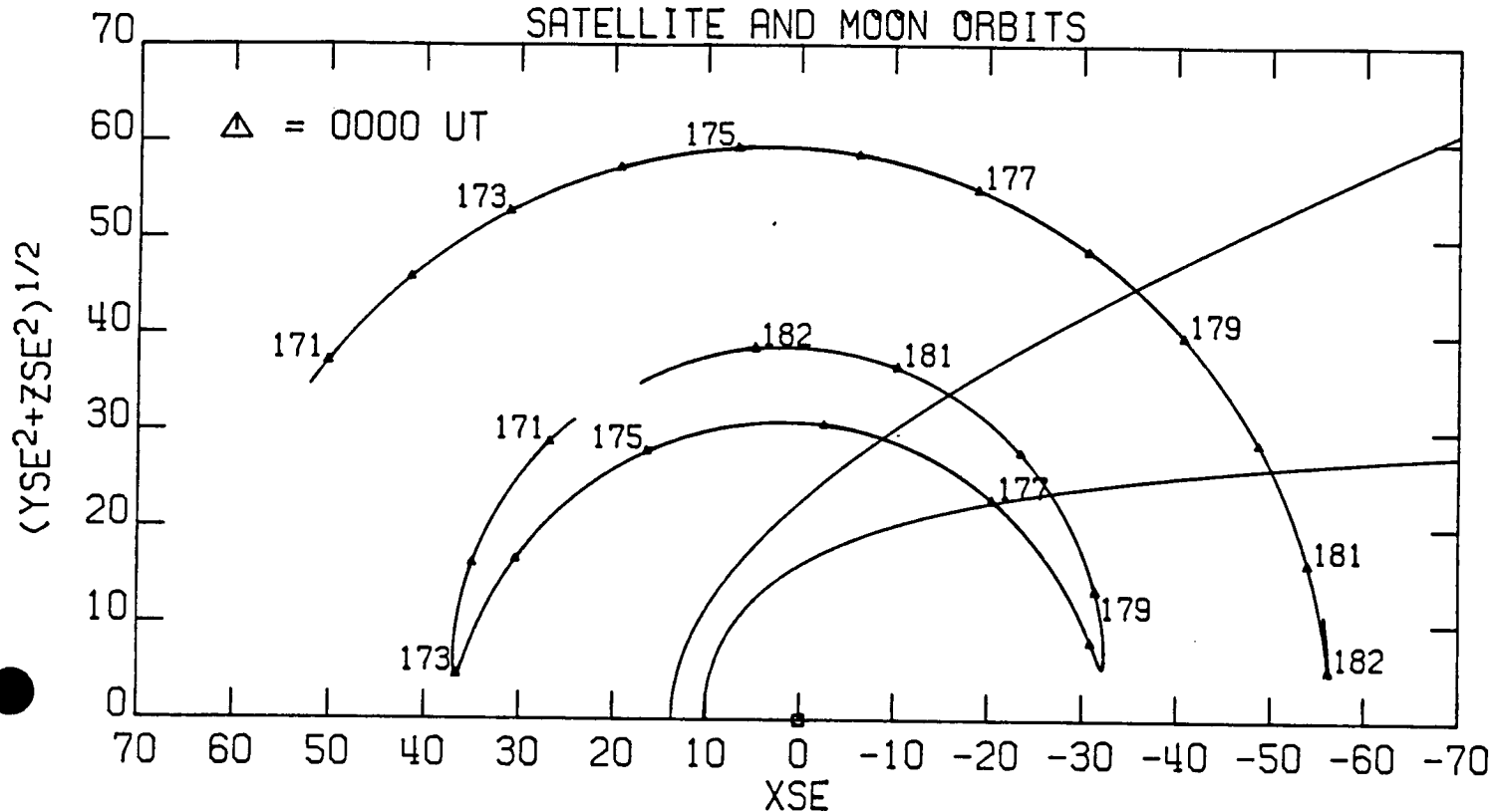
IMP 7 TRAJECTORY.

ASCENDING NODE 143

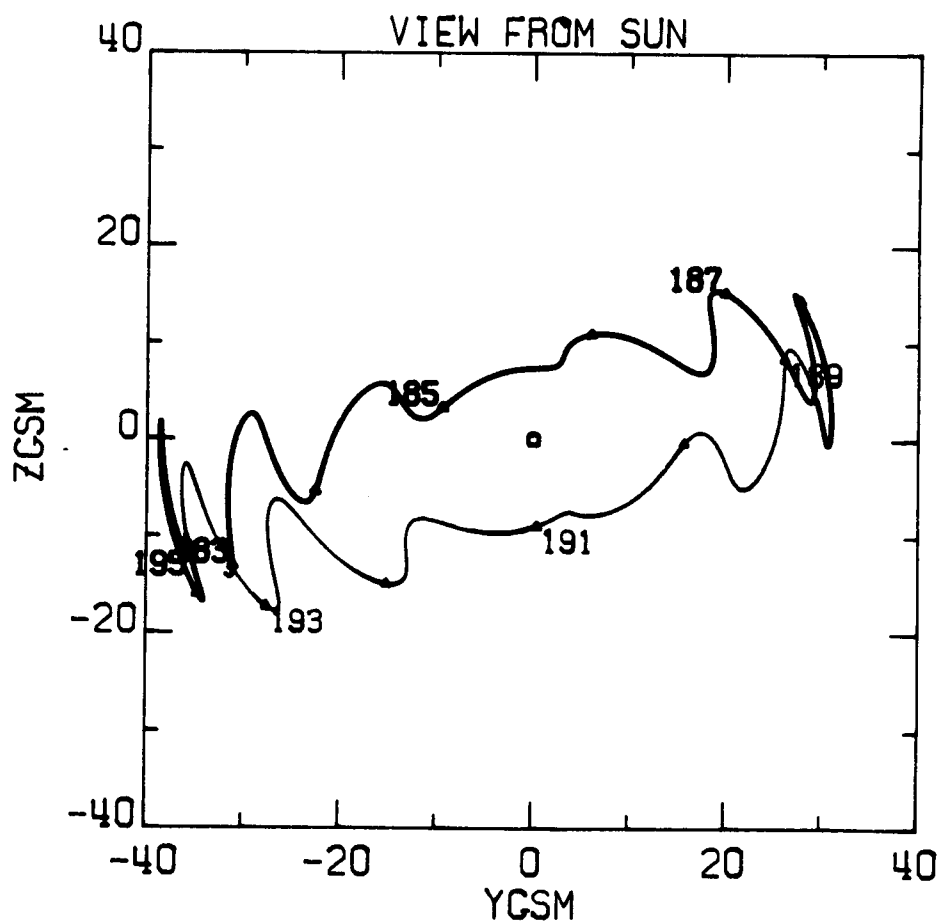
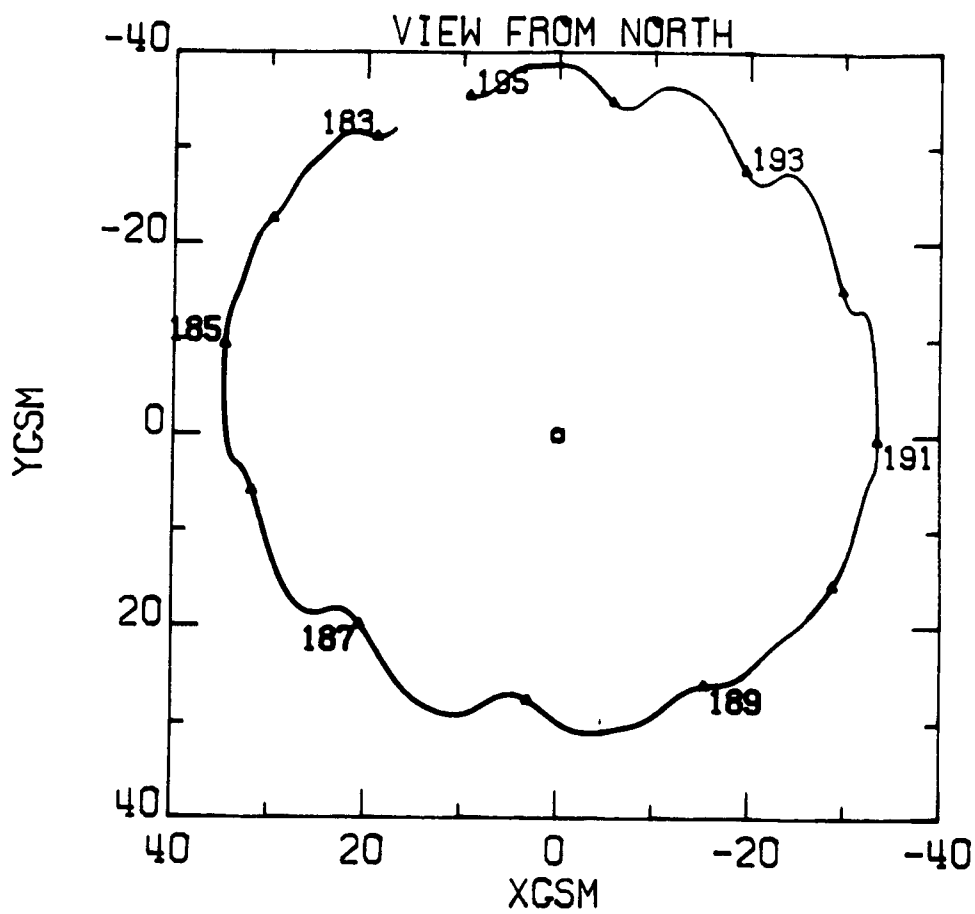
FROM JUN 19 TO JUL 1 1977

DAYS 170 THRU 182

SATELLITE AND MOON ORBITS



IMP 7 FROM JUL 1 TO JUL 14 1977



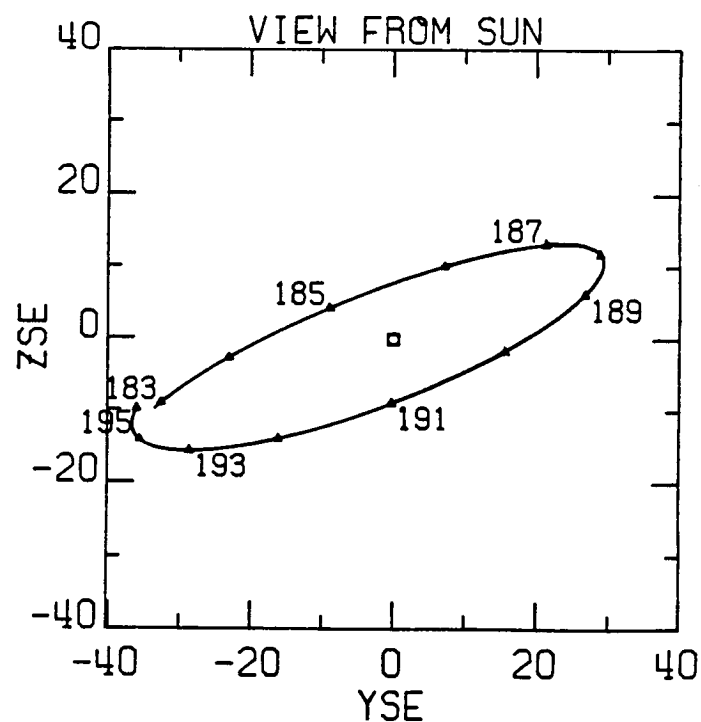
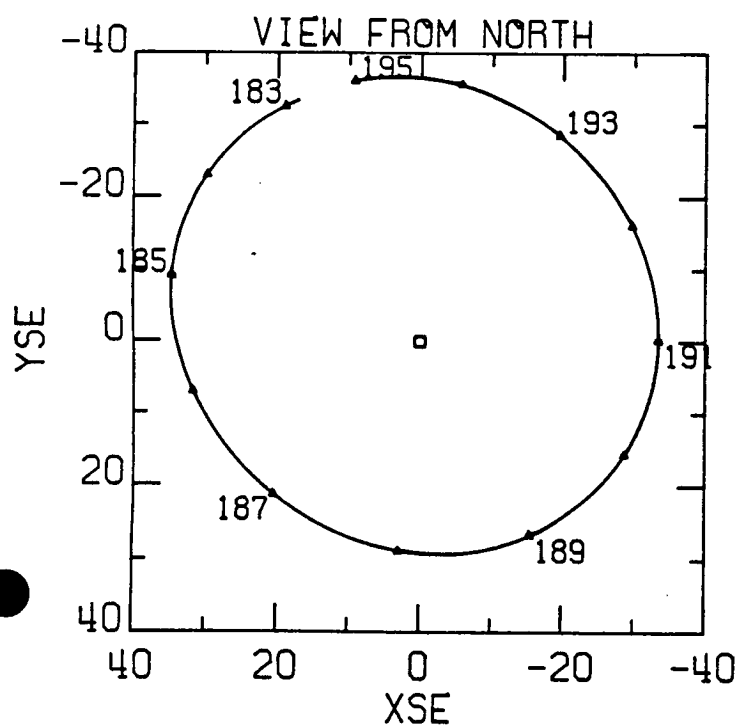
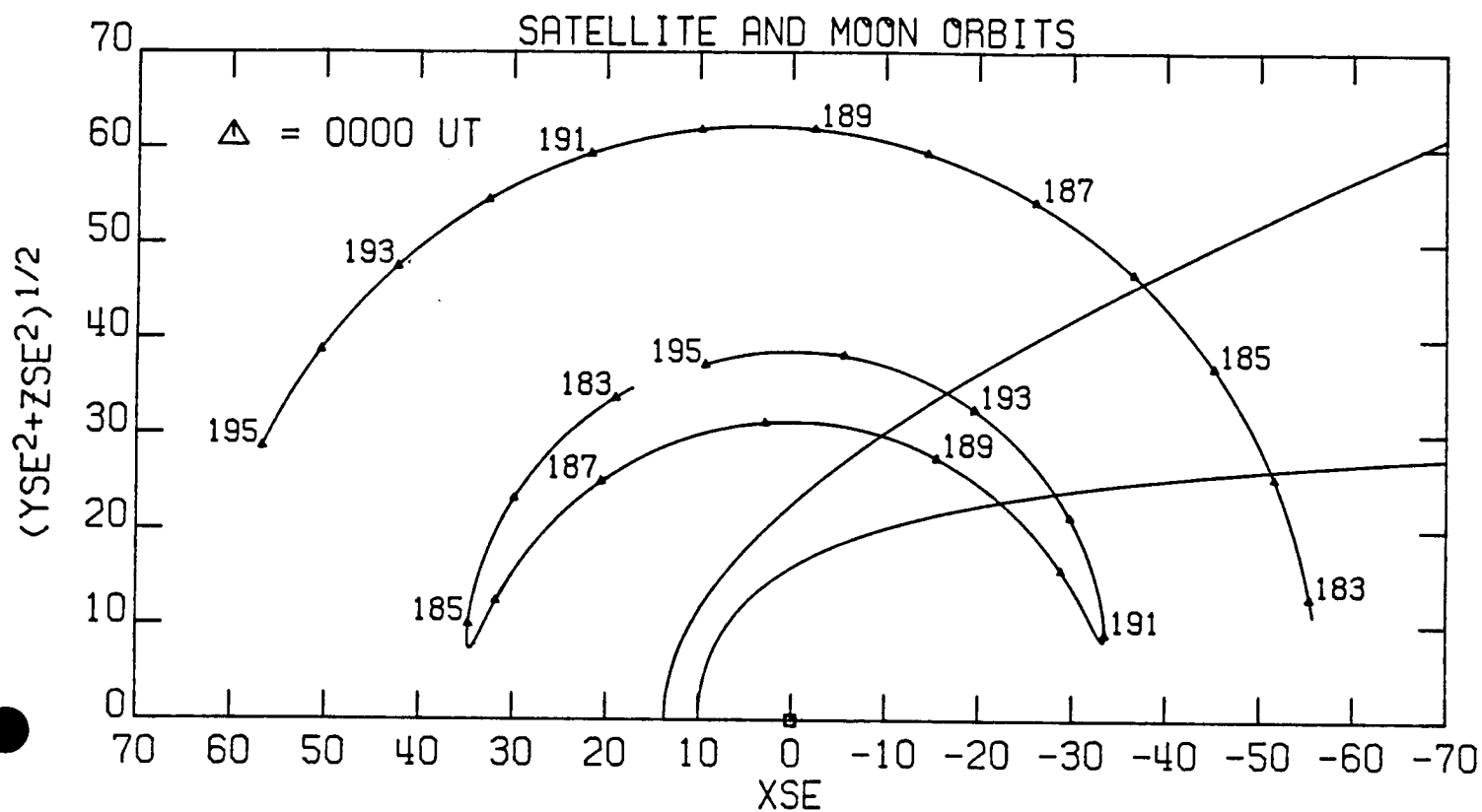
c-4

IMP 7 TRAJECTORY.

ASCENDING NODE 144

FROM JUL 1 TO JUL 14 1977

DAYS 182 THRU 195



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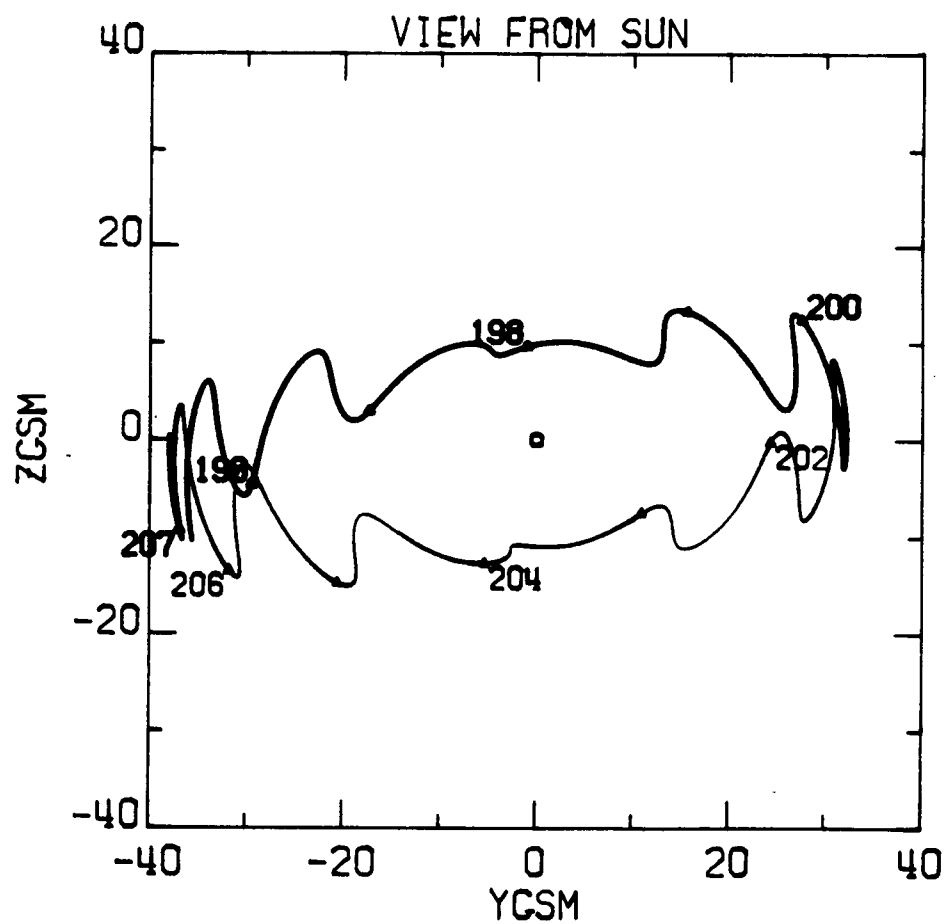
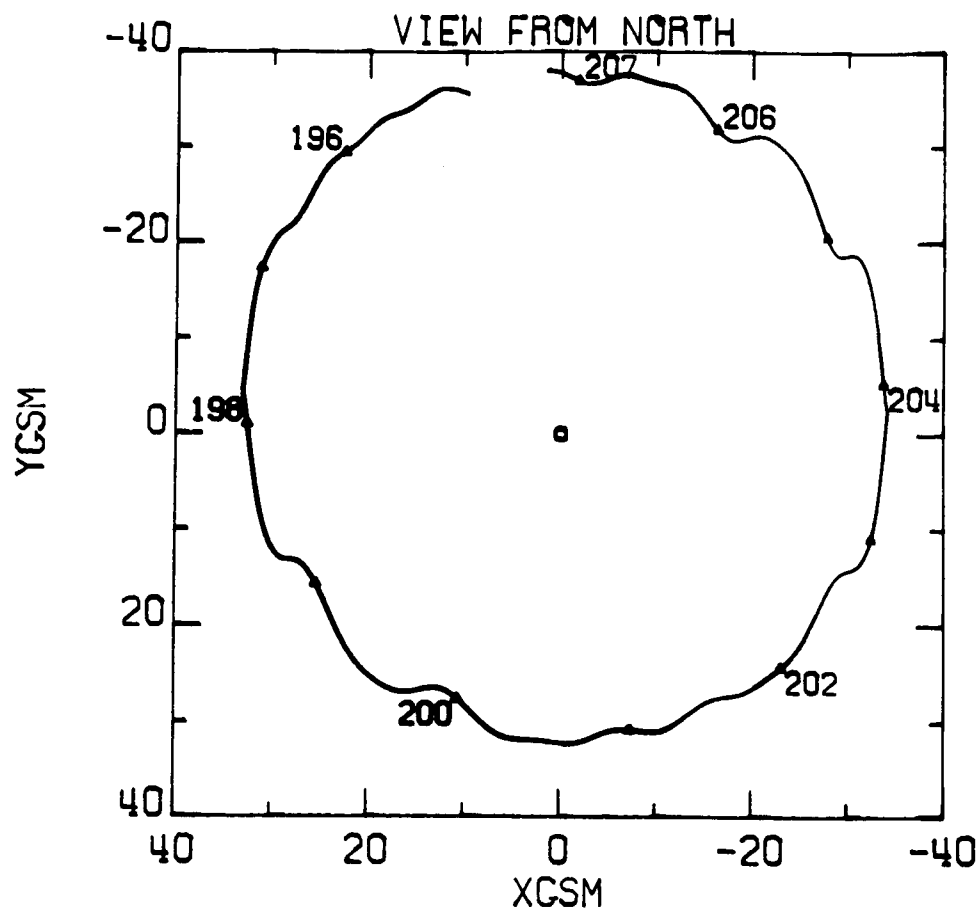
03/11/88

Source: Research

Source: Research

MIT Contact: Research

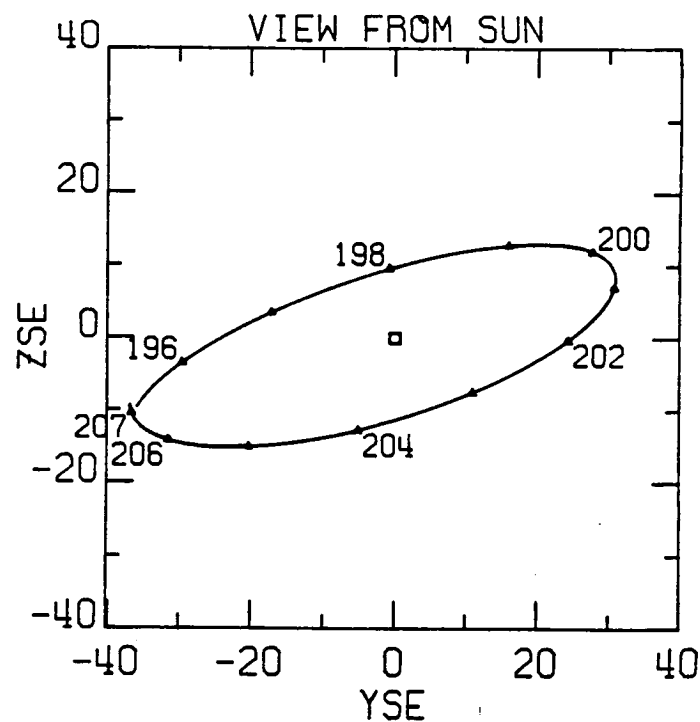
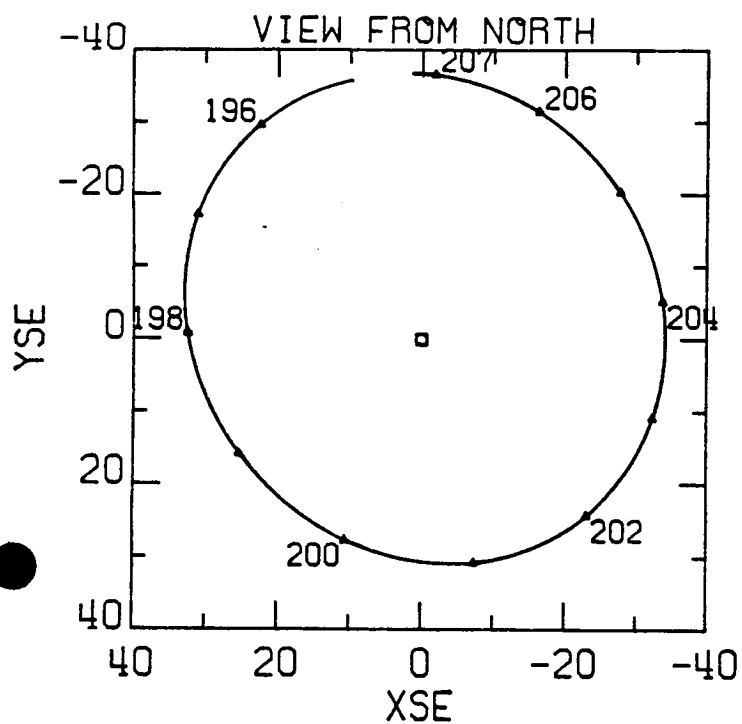
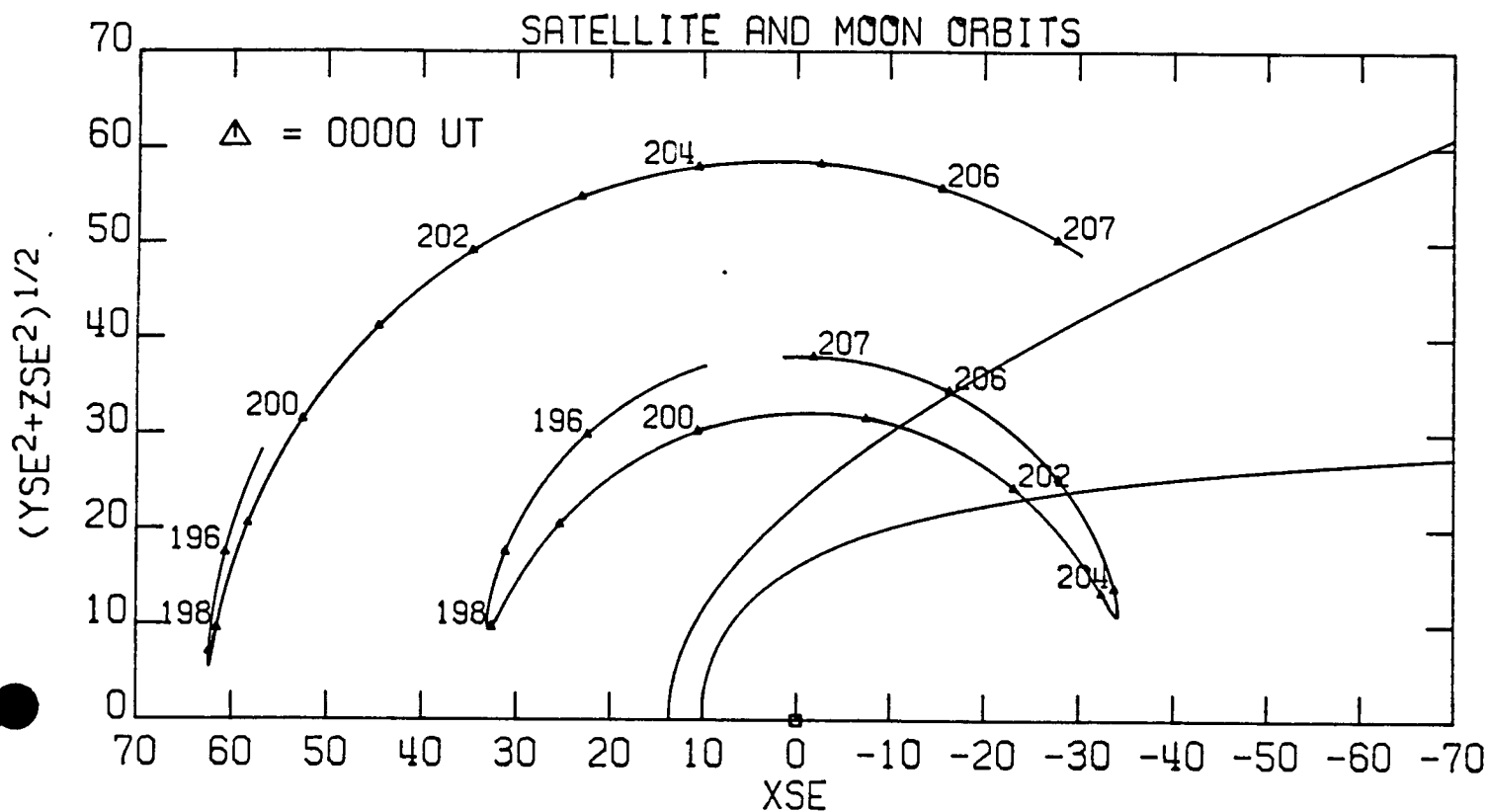
IMP 7 FROM JUL 14 TO JUL 26 1977



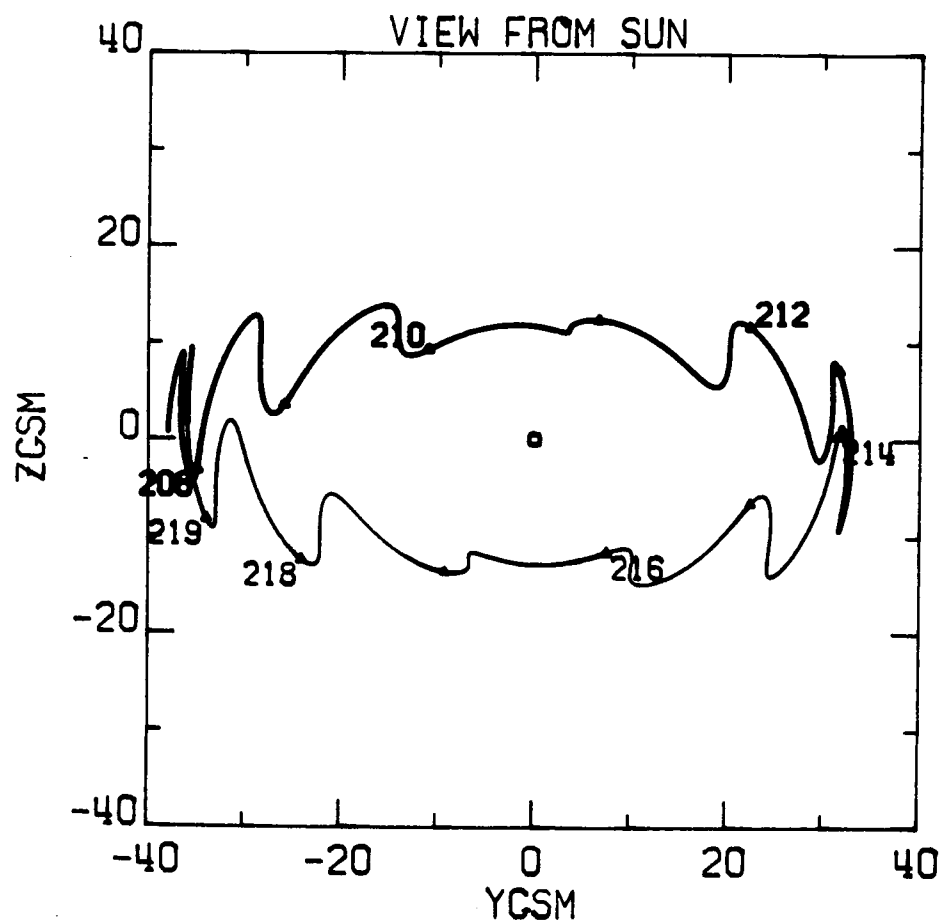
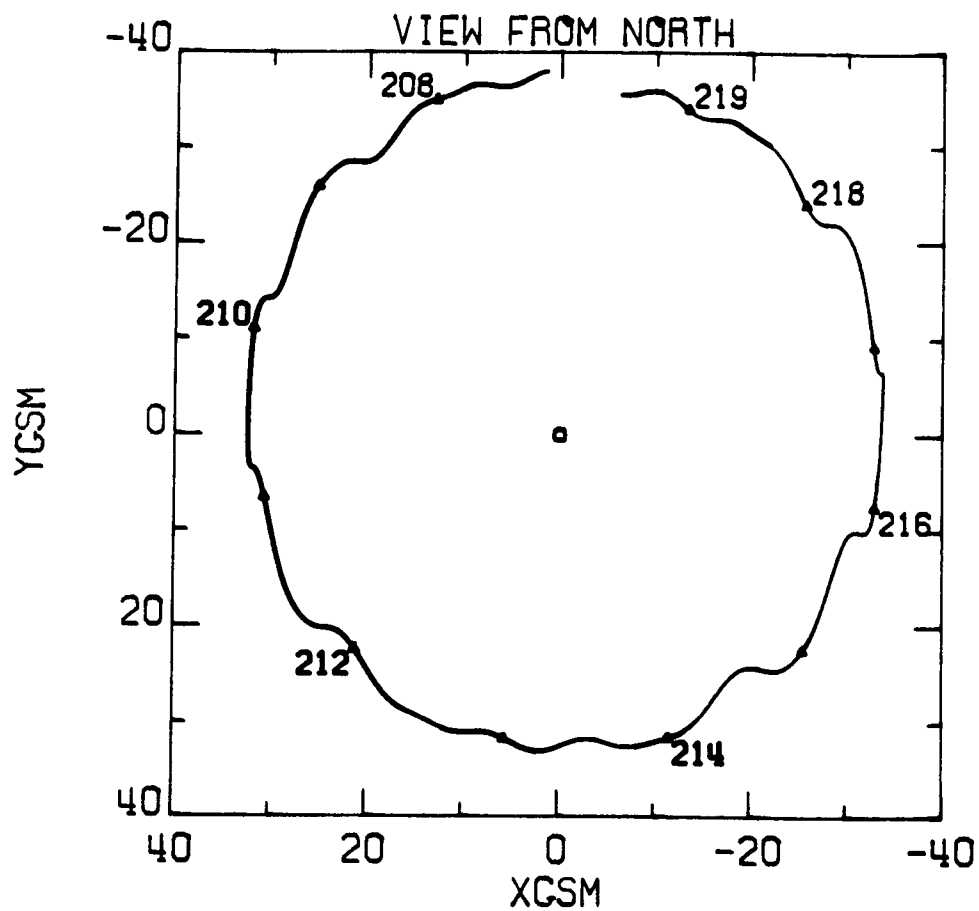
IMP 7 TRAJECTORY. ASCENDING NODE 145

FROM JUL 14 TO JUL 26 1977

DAYS 195 THRU 207



IMP 7 FROM JUL 26 TO AUG 7 1977

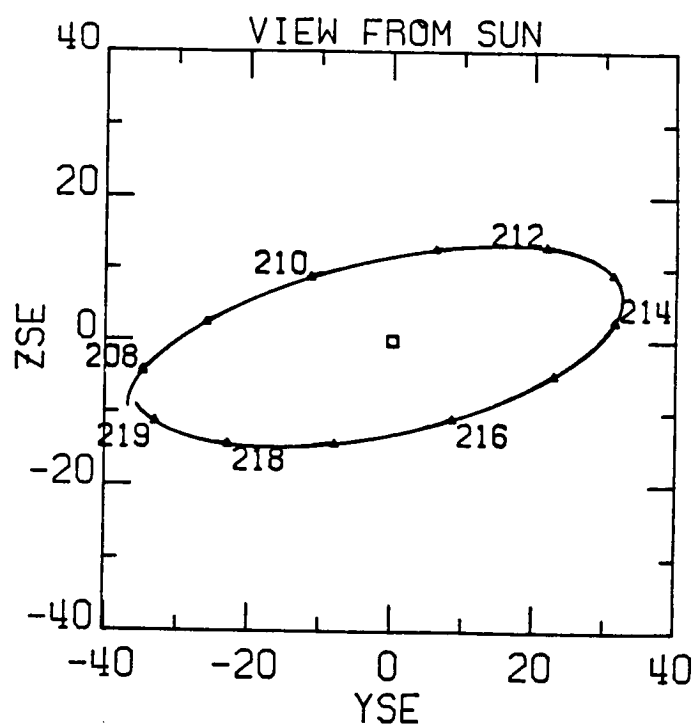
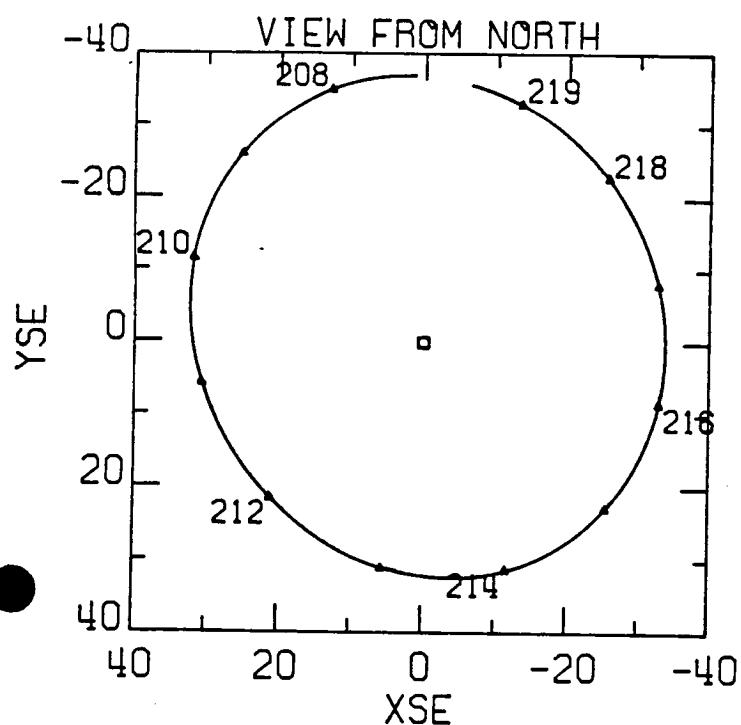
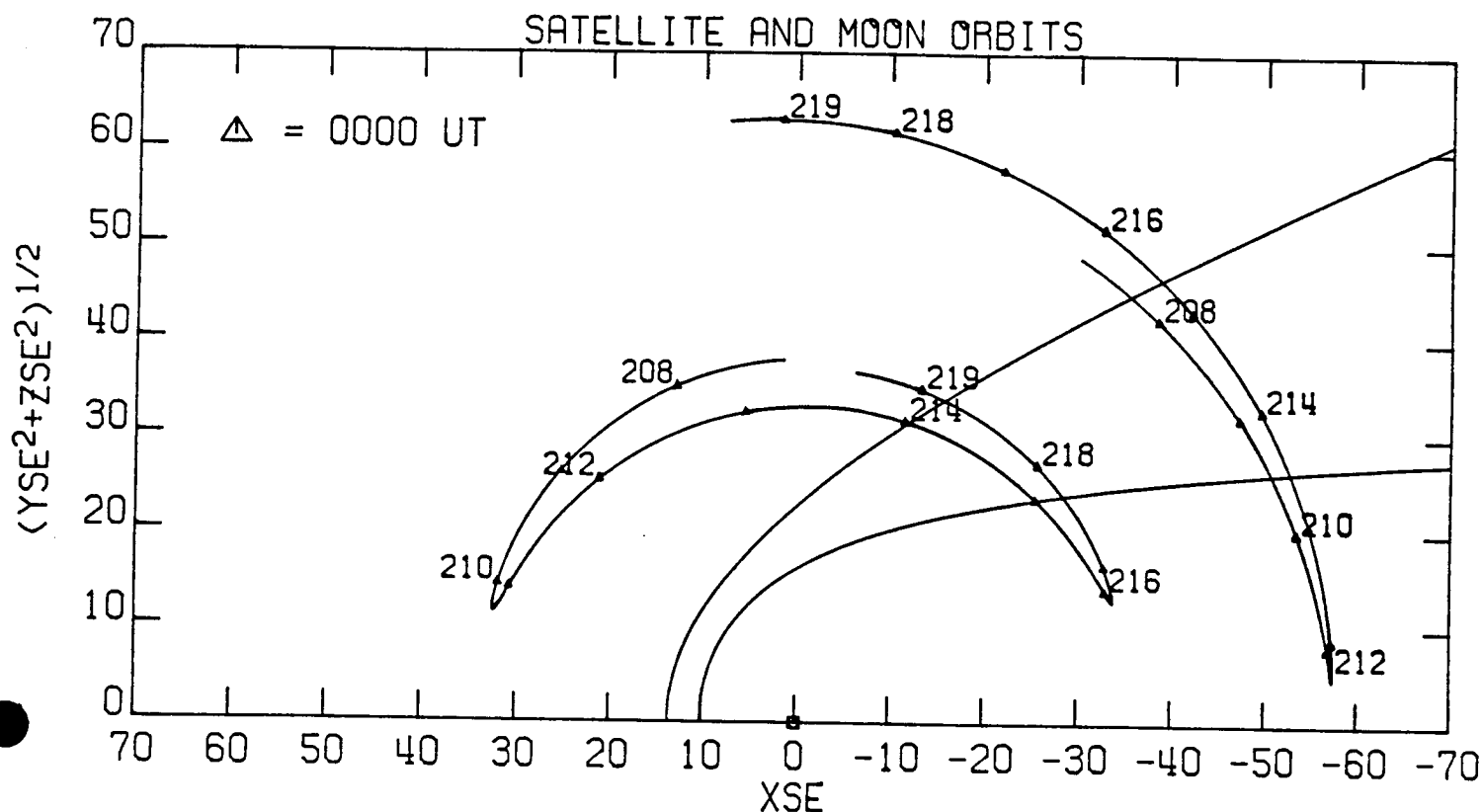


IMP 7 TRAJECTORY.

ASCENDING NODE 146

FROM JUL 26 TO AUG 7 1977

DAYS 207 THRU 219

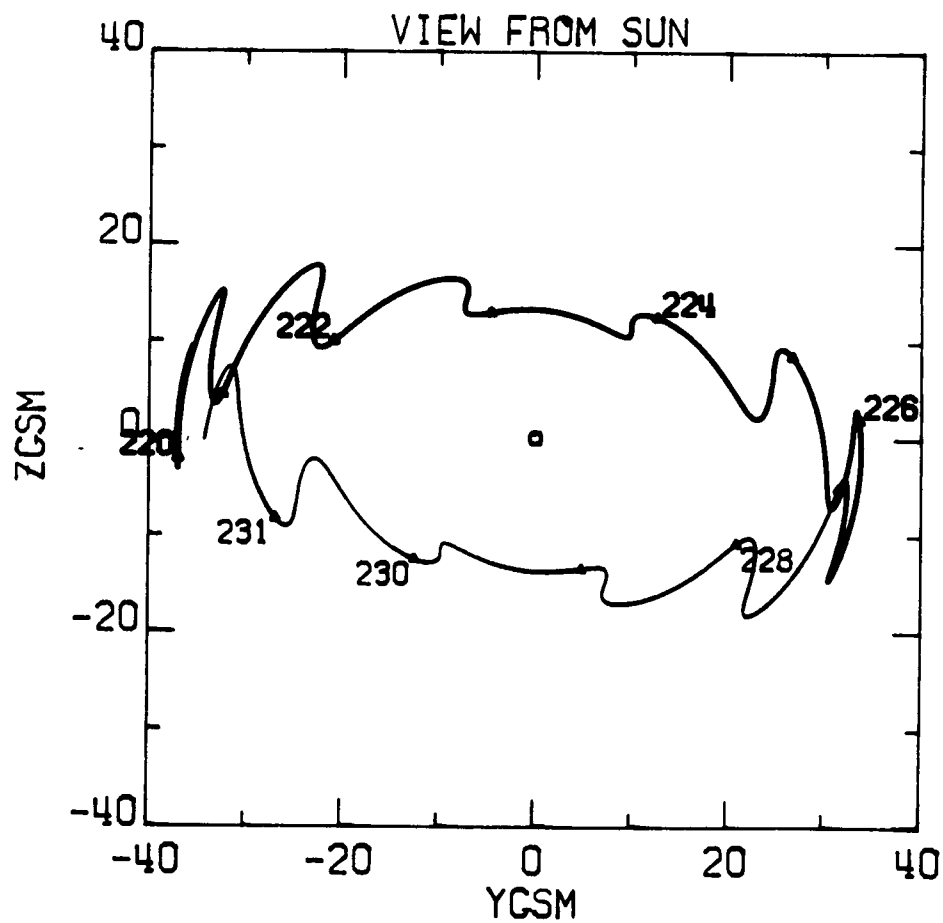
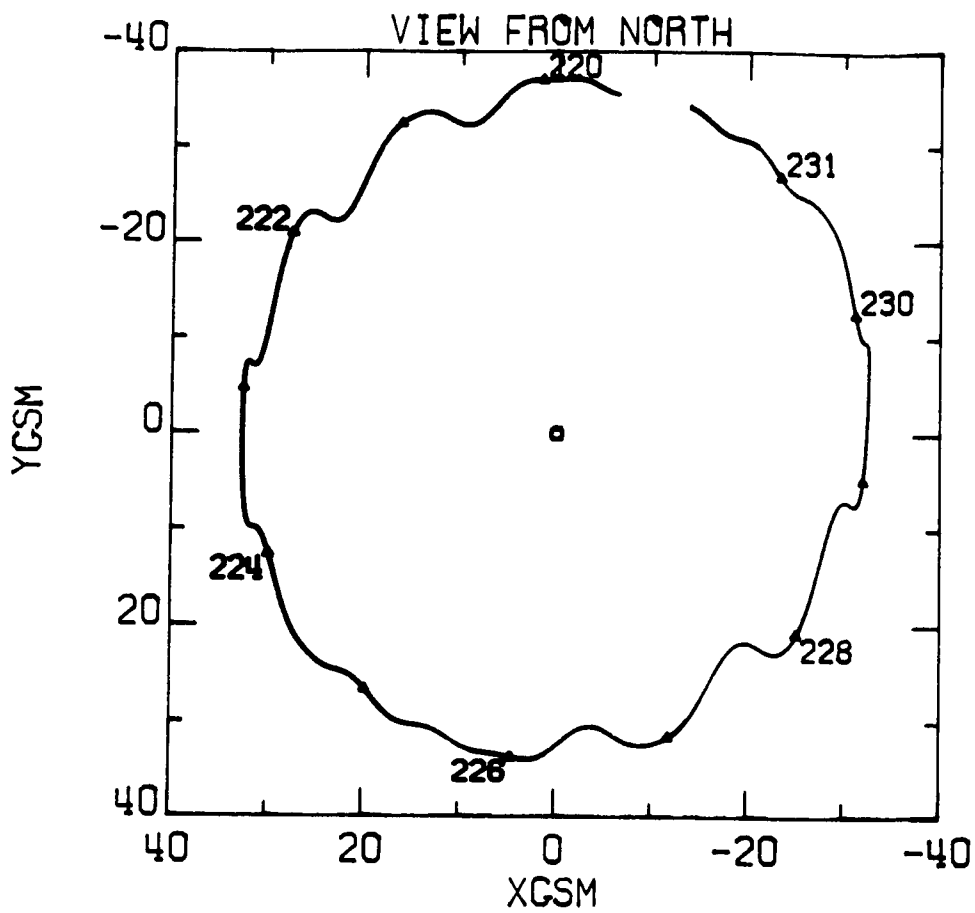


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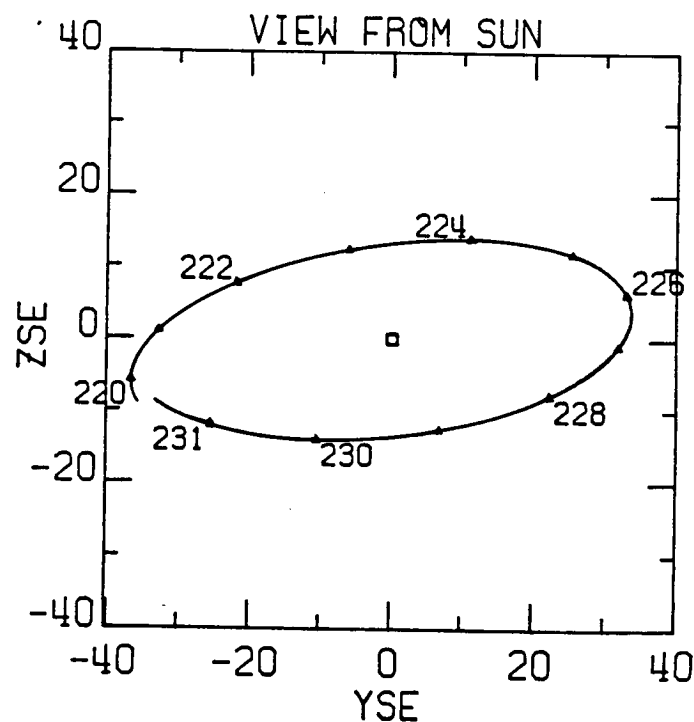
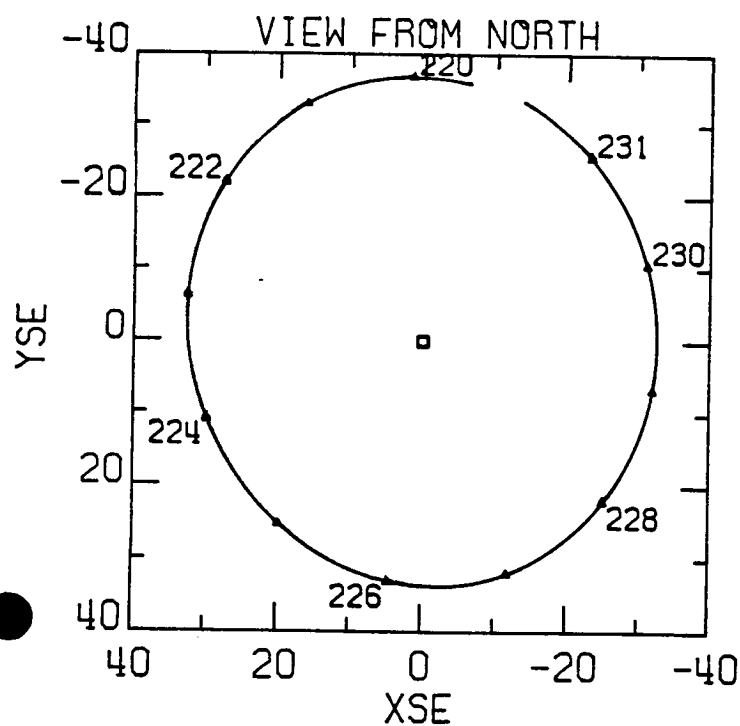
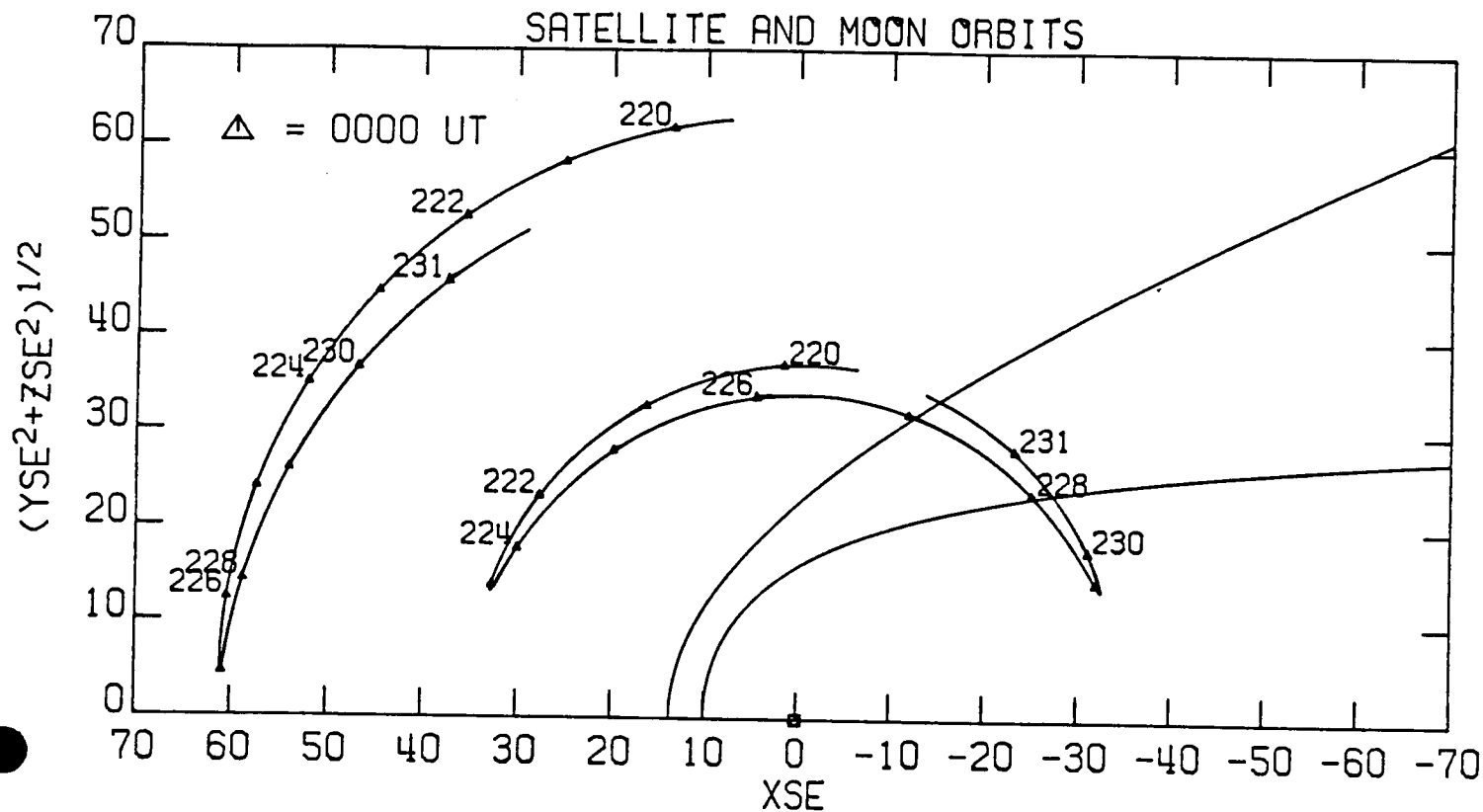
M T T Center for Space Research

IMP 7 FROM AUG 7 TO AUG 19 1977

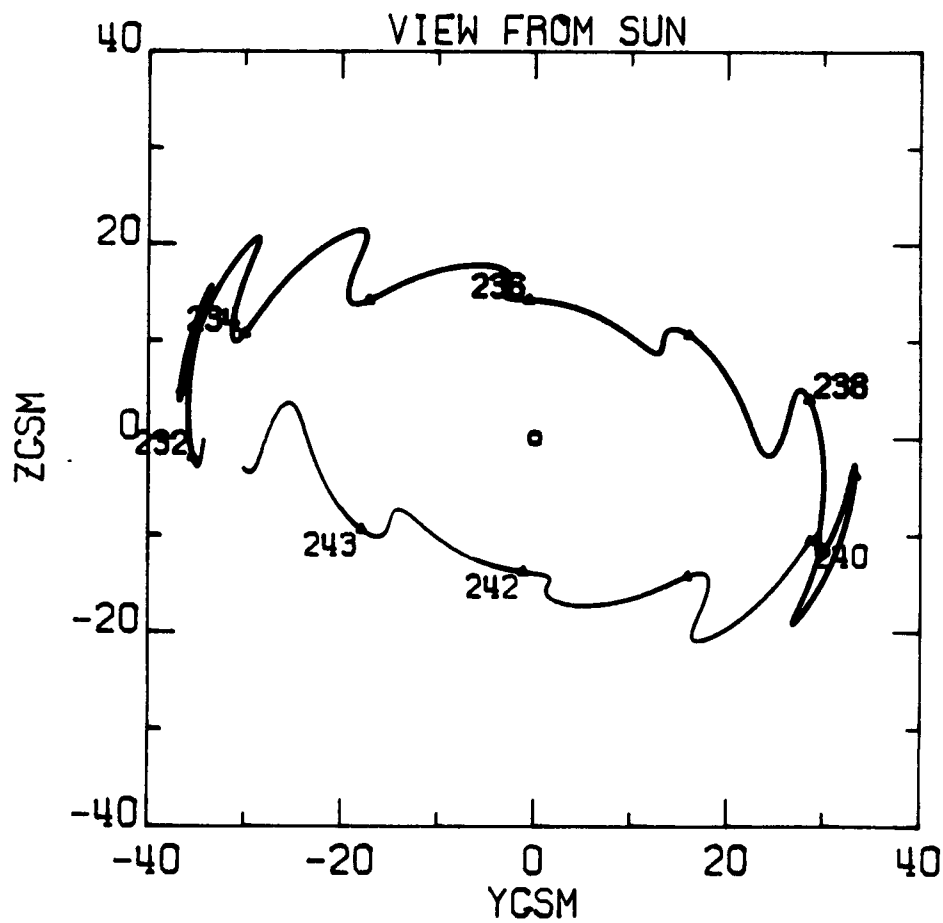
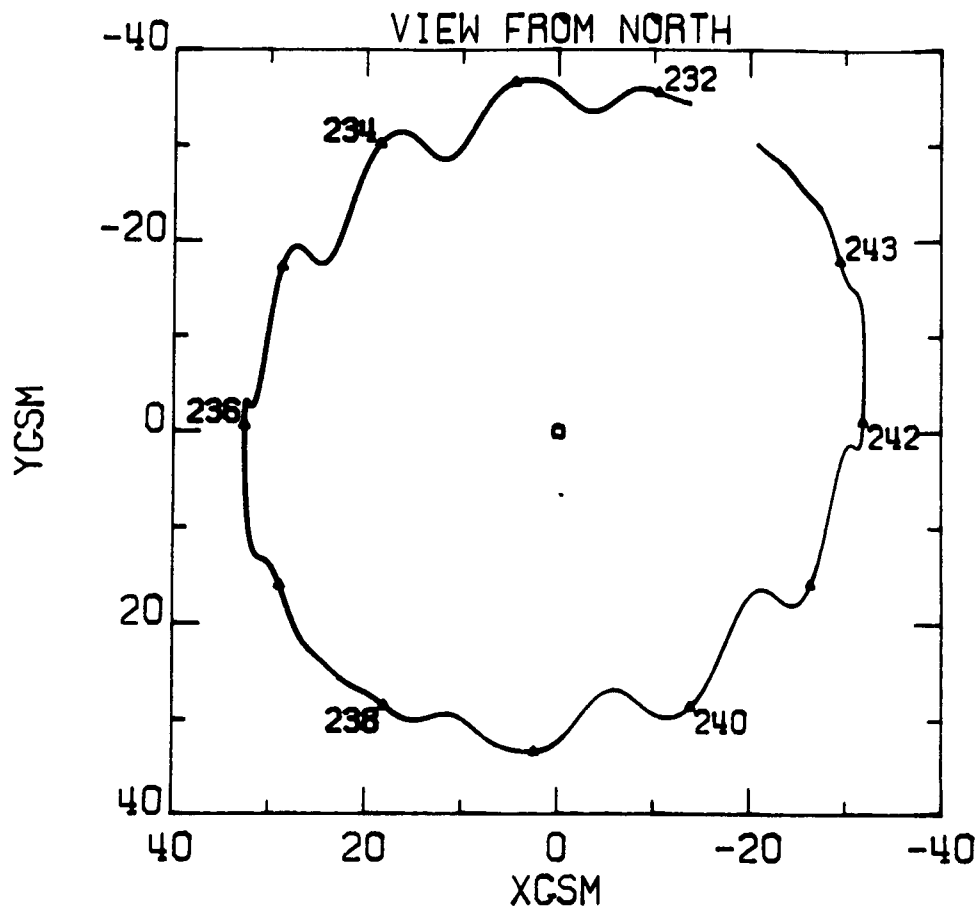


FROM AUG 7 TO AUG 19 1977

DAYS 219 THRU 231



IMP 7 FROM AUG 19 TO AUG 31 1977

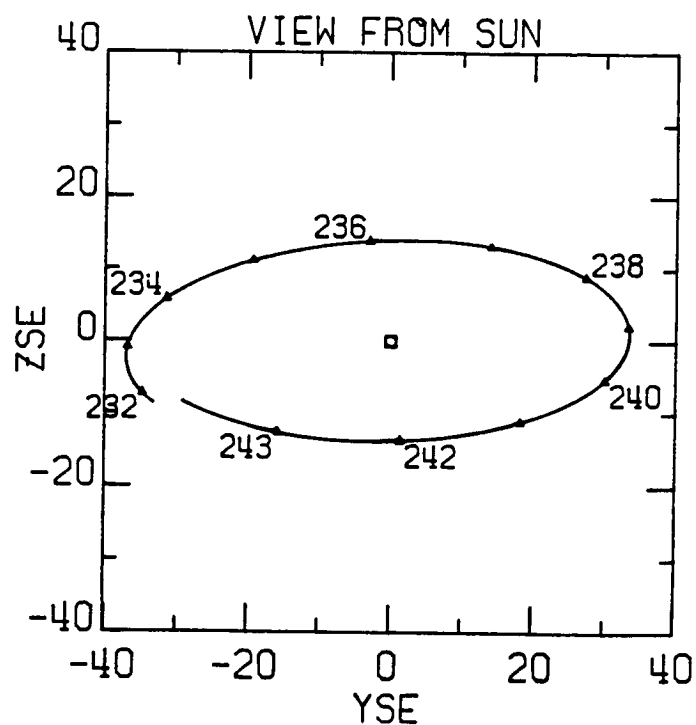
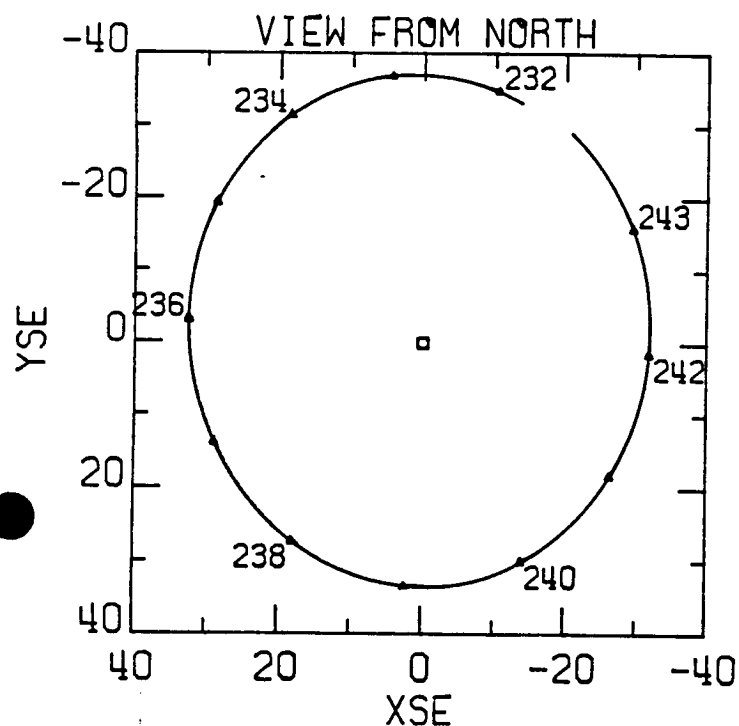
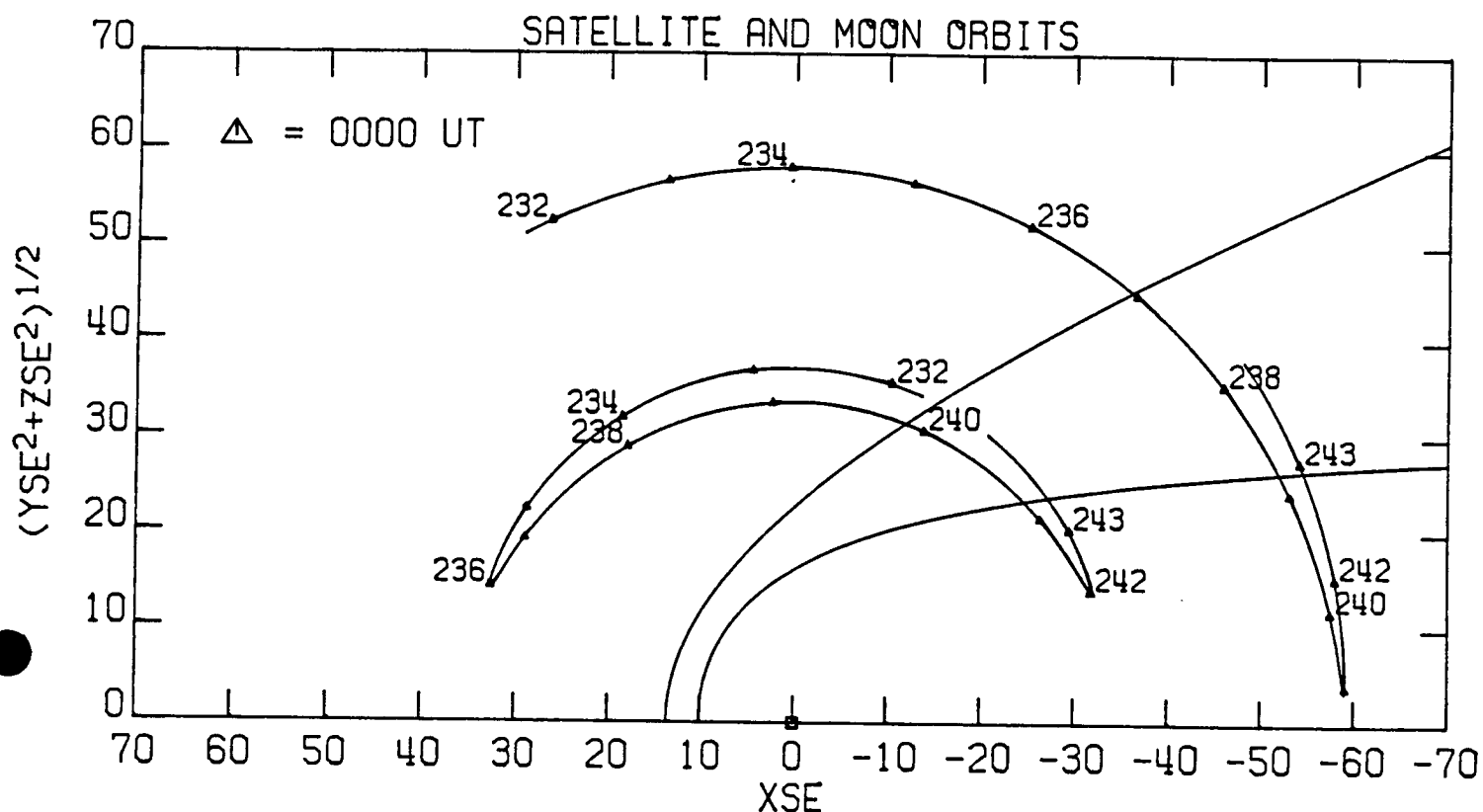


IMP 7 TRAJECTORY.

ASCENDING NODE 148

FROM AUG 19 TO AUG 31 1977

DAYS 231 THRU 243

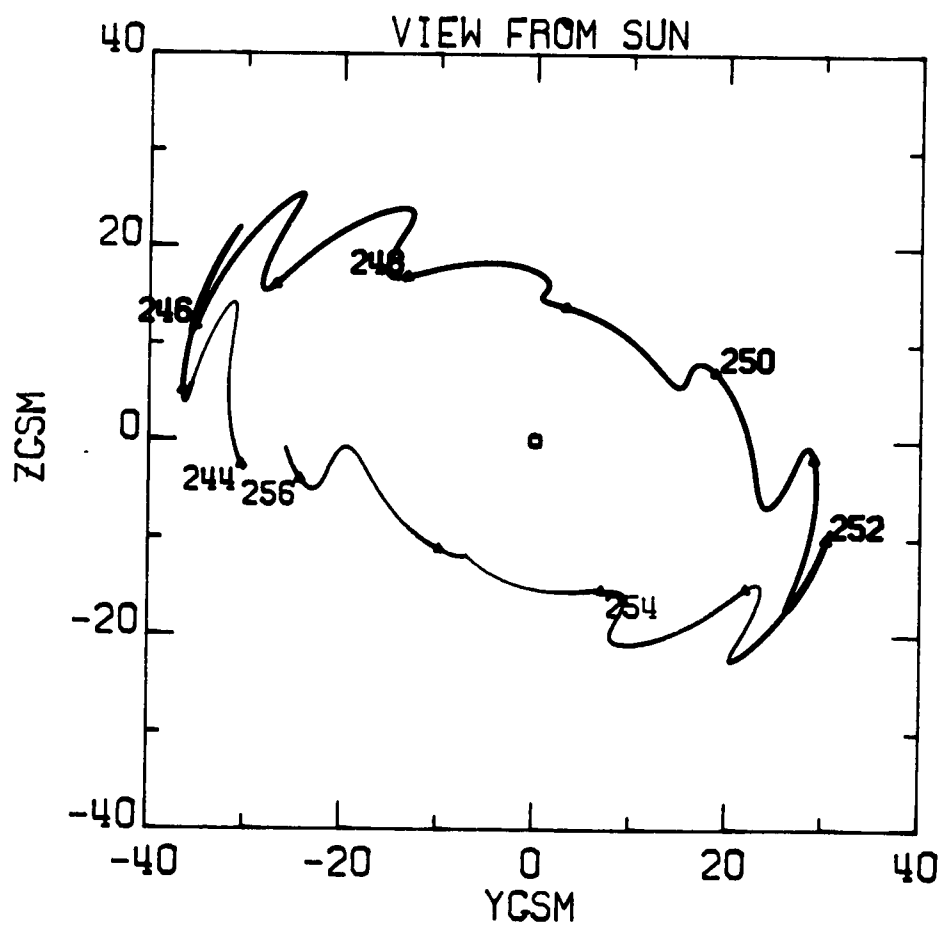
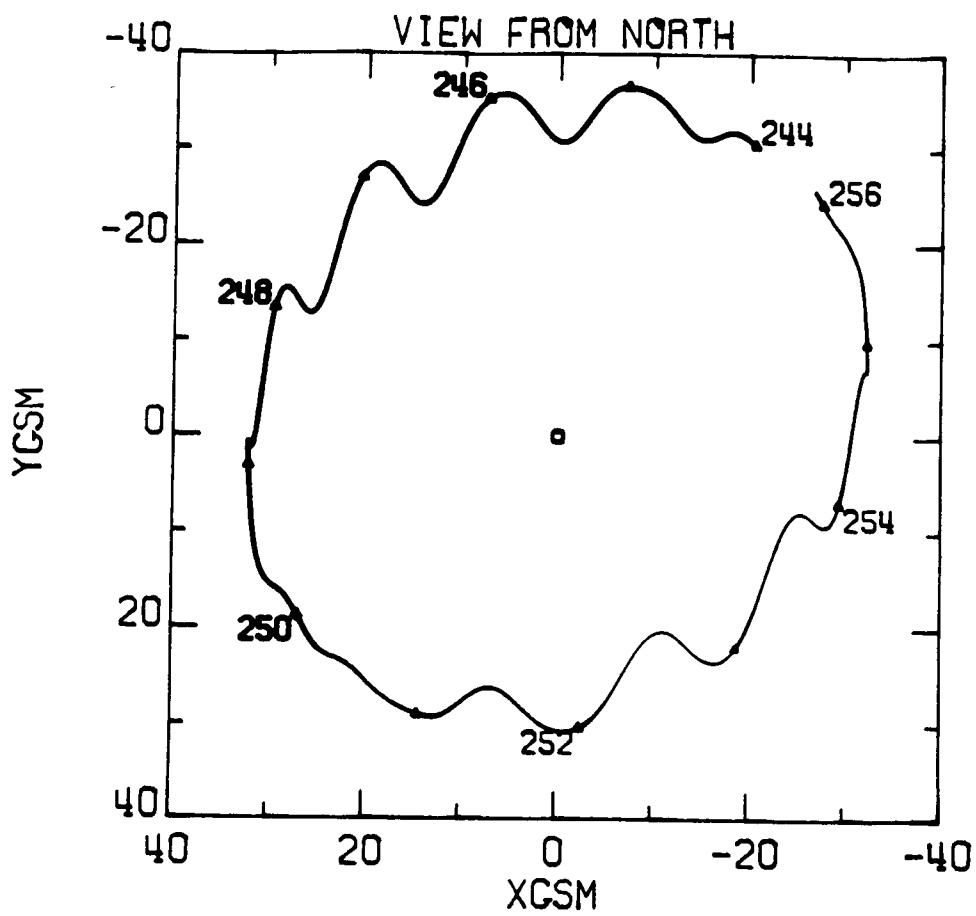


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M.I.T. Center for Space Research

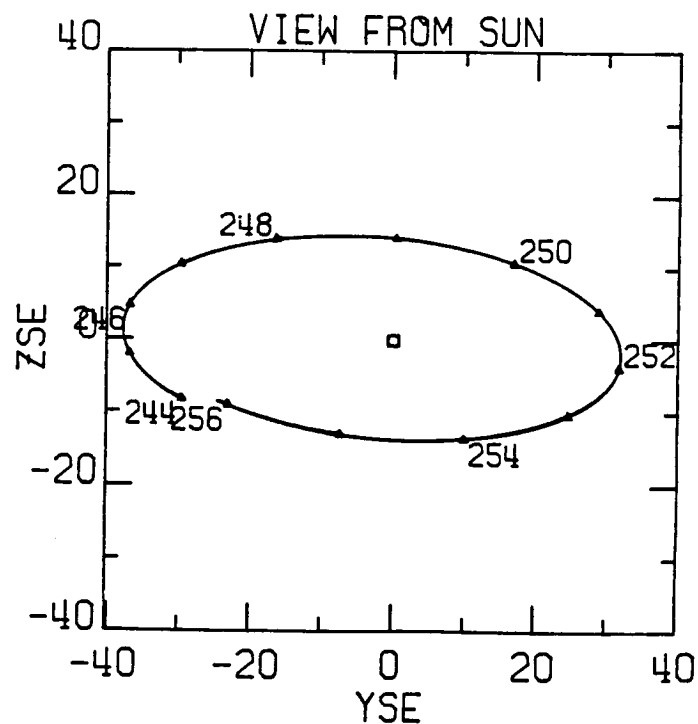
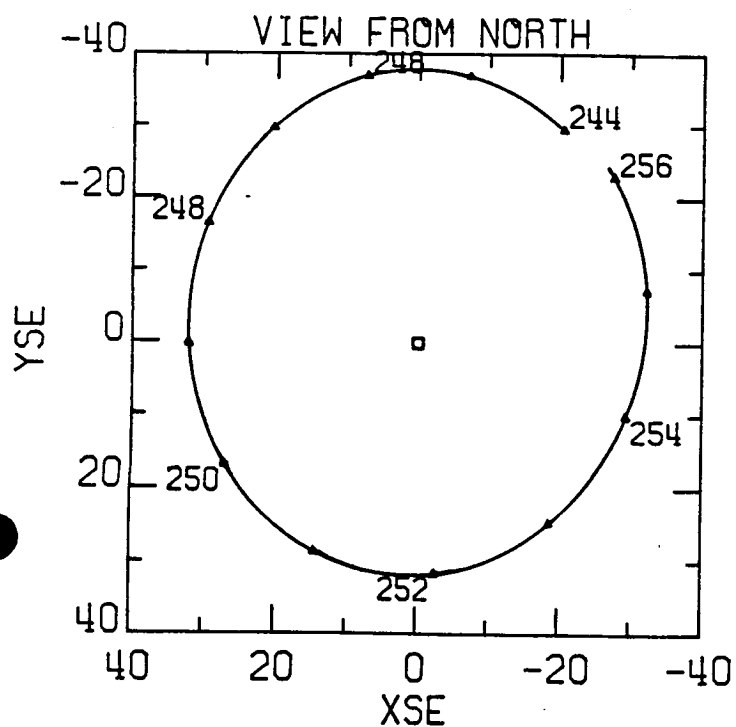
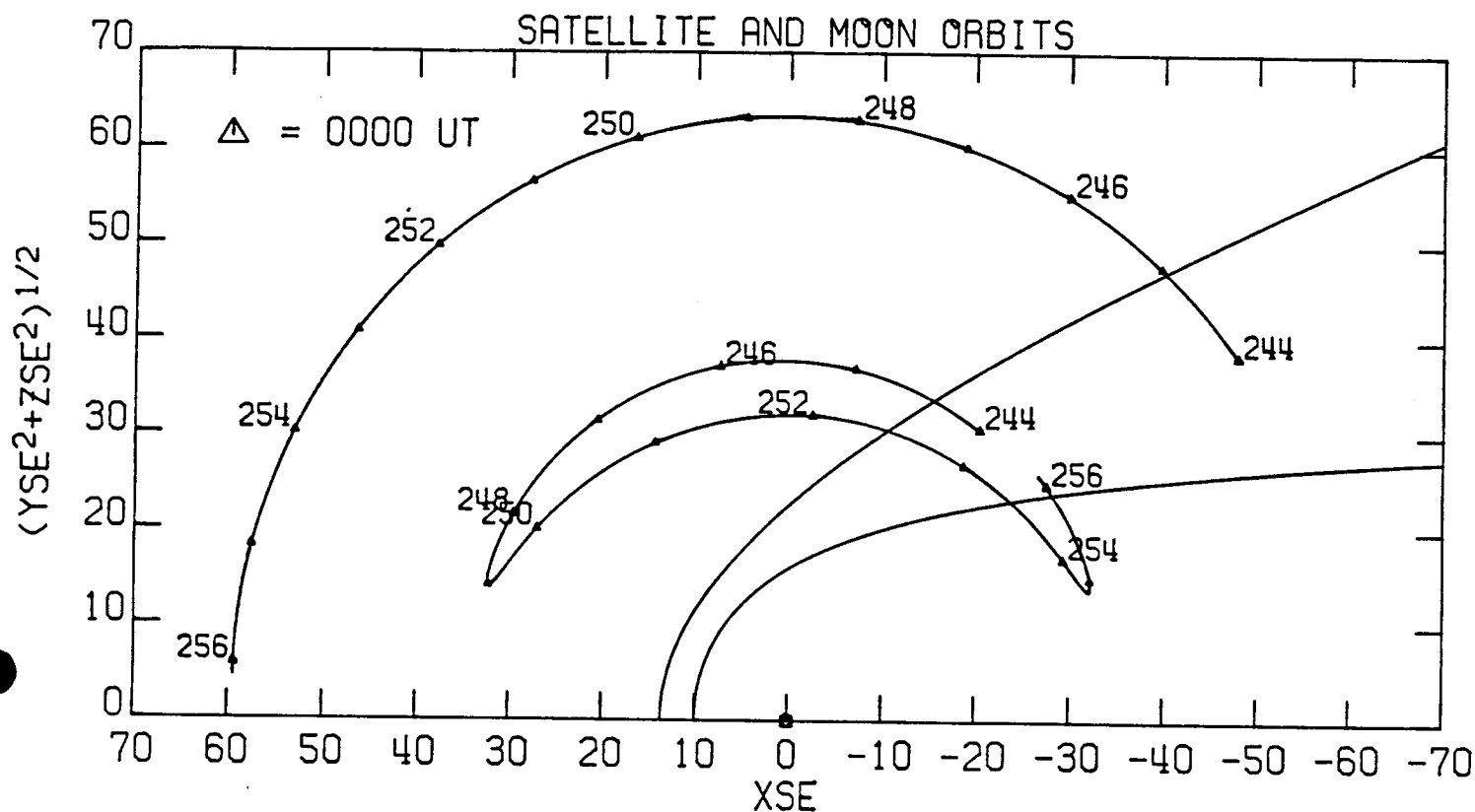
IMP 7 FROM AUG 31 TO SEP 13 1977



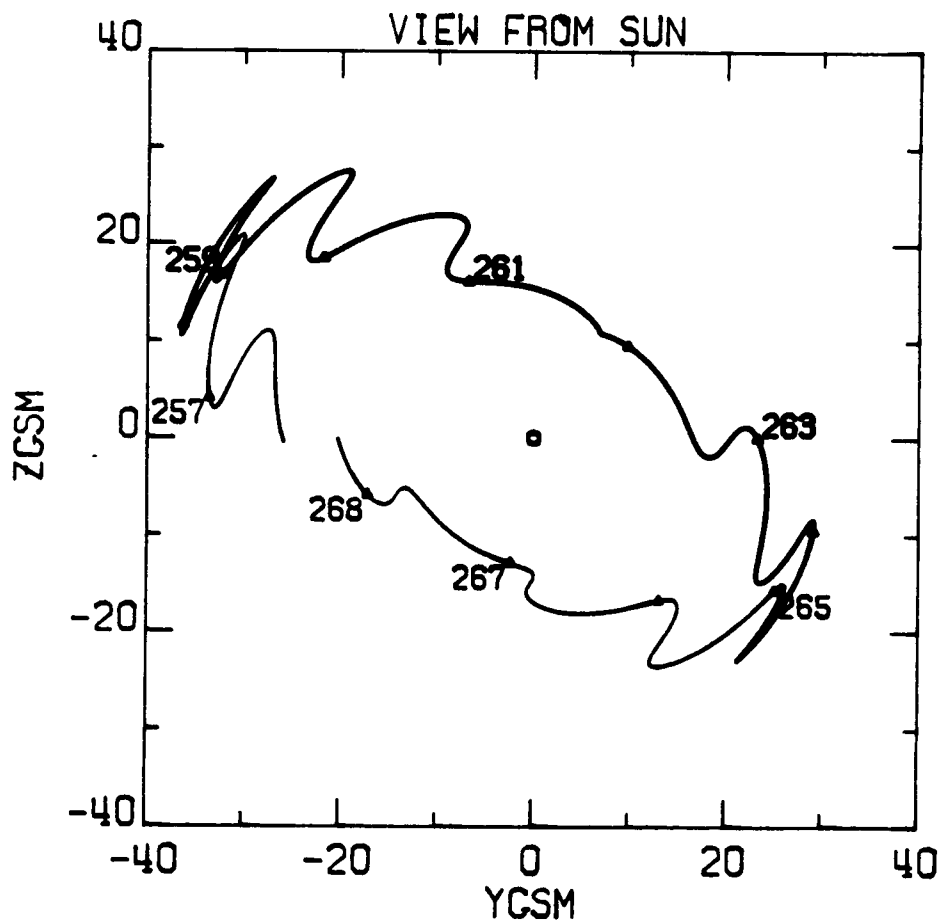
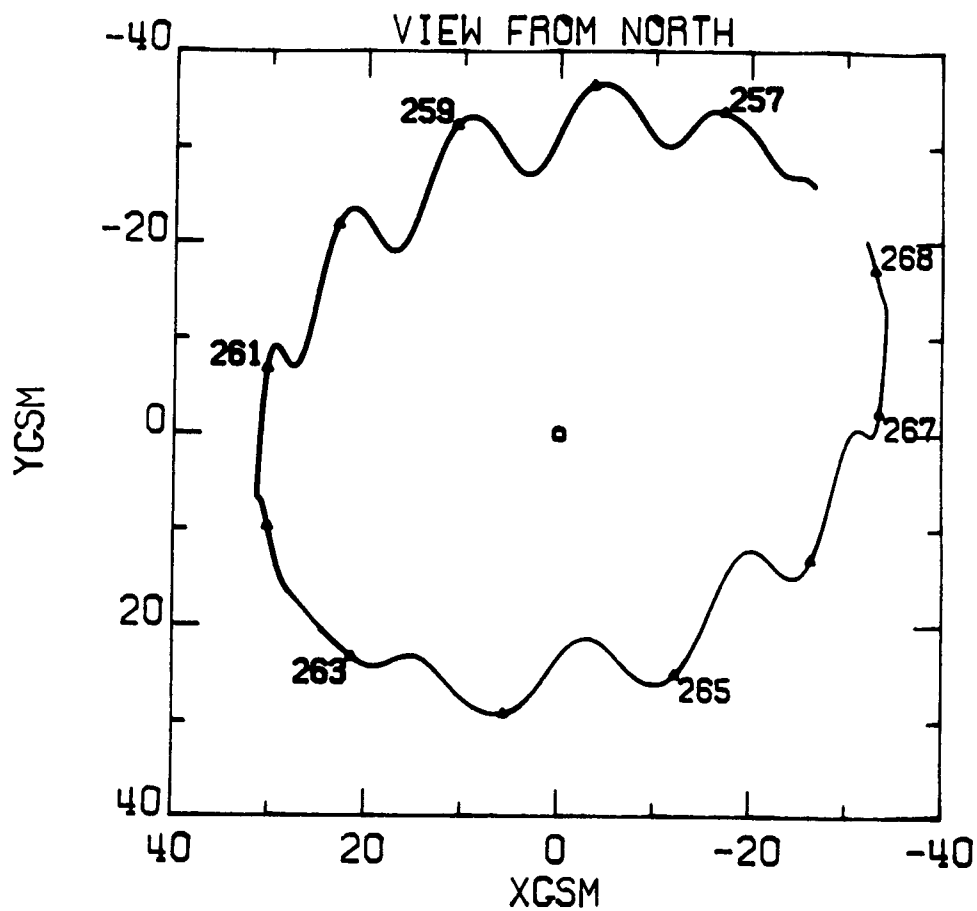
IMP 7 TRAJECTORY. ASCENDING NODE 149

FROM AUG 31 TO SEP 13 1977

DAYS 243 THRU 256



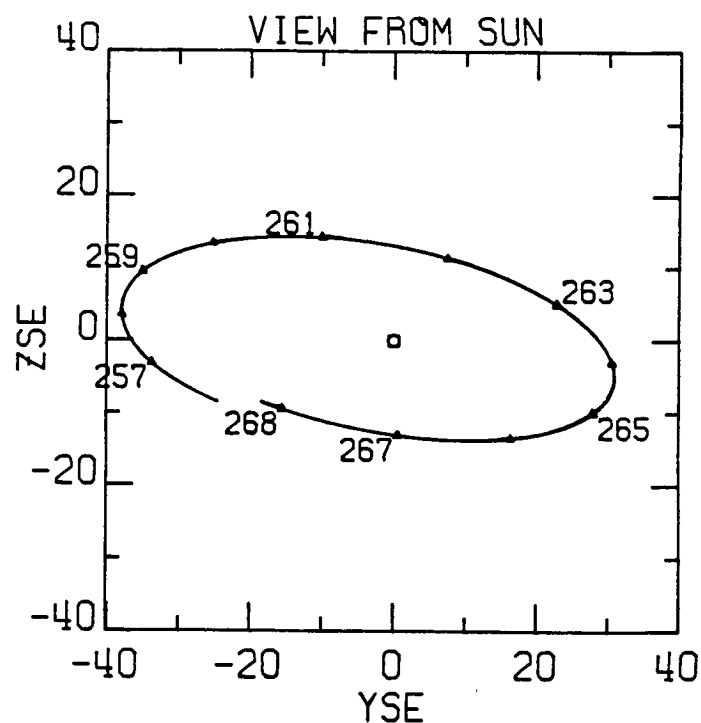
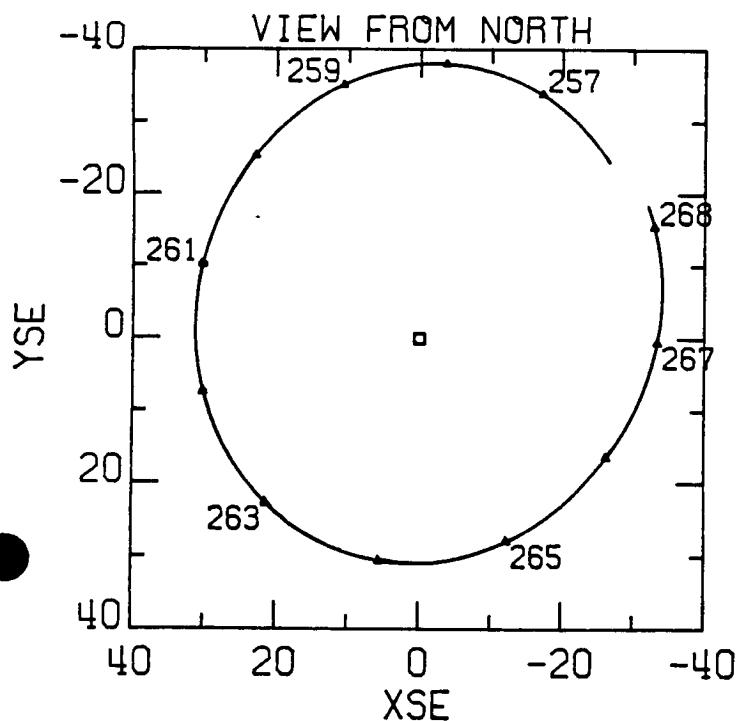
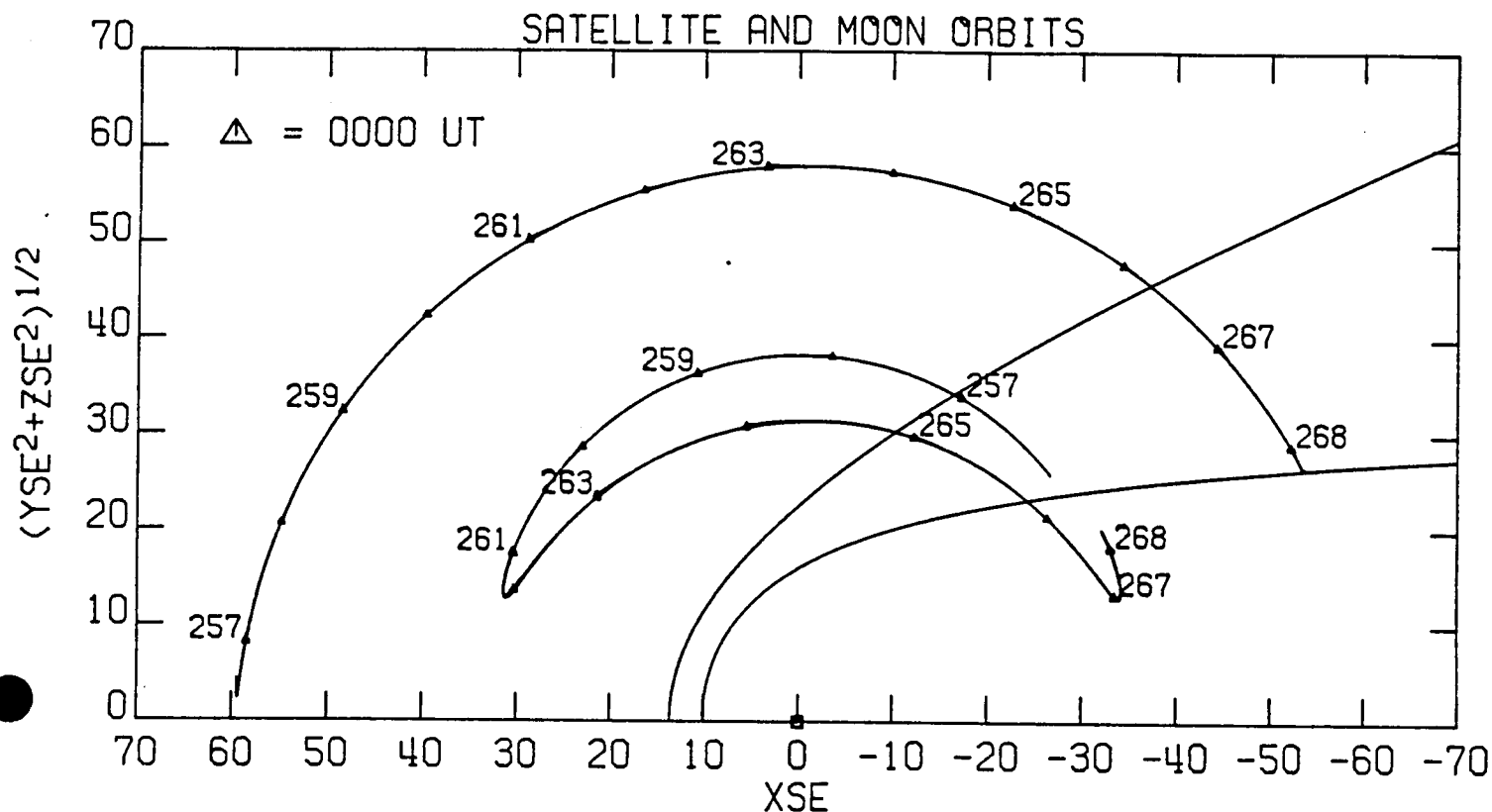
IMP 7 FROM SEP 13 TO SEP 25 1977



IMP 7 TRAJECTORY. ASCENDING NODE 150

FROM SEP 13 TO SEP 25 1977

DAYS 256 THRU 268



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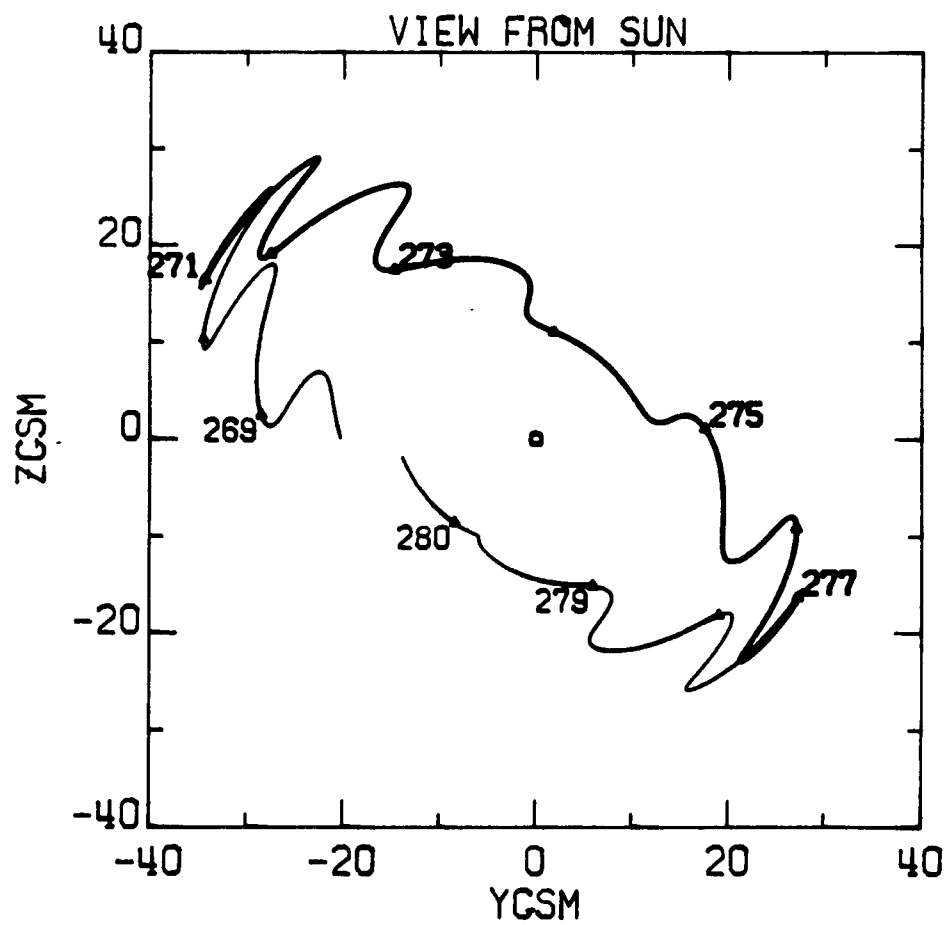
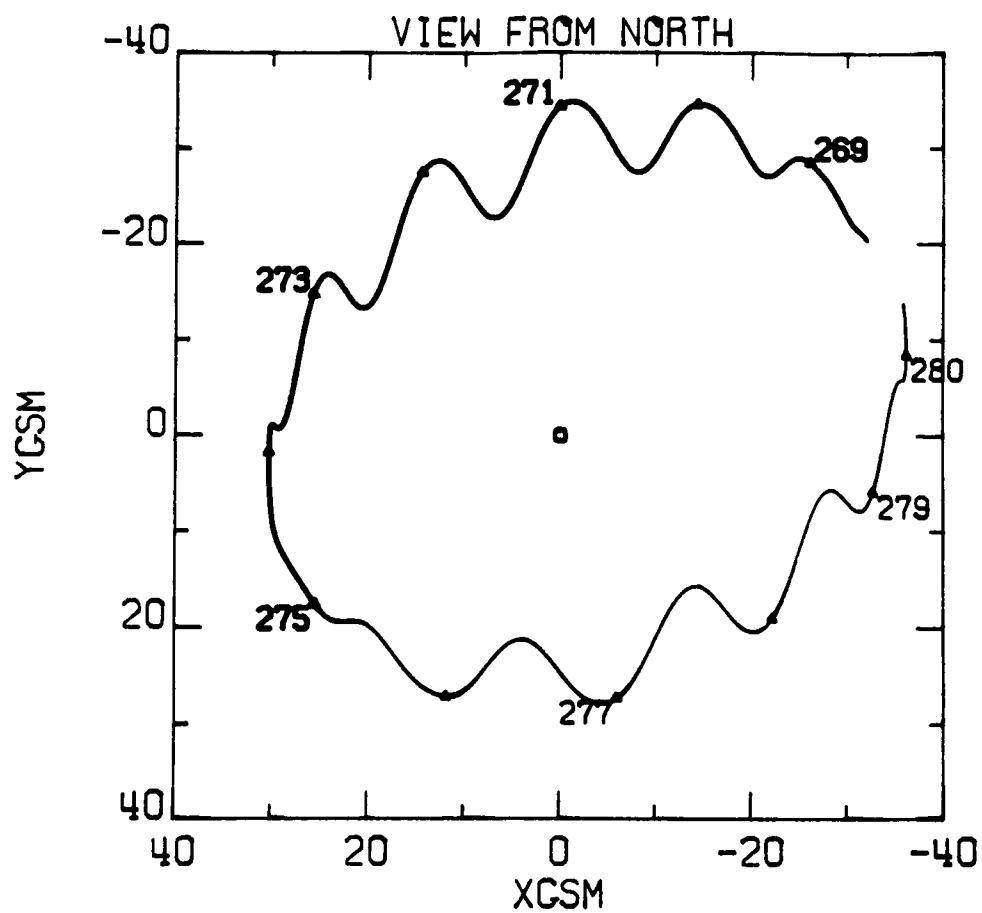
CSRTMPQD

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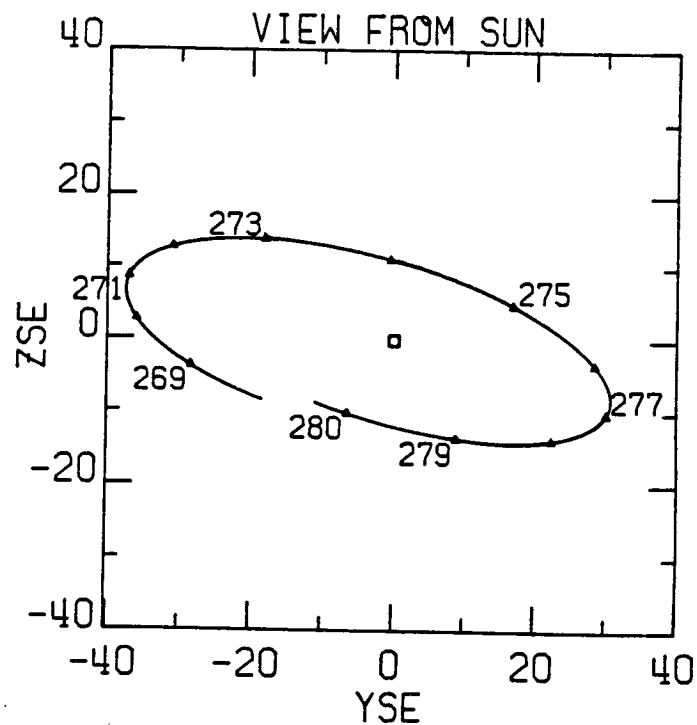
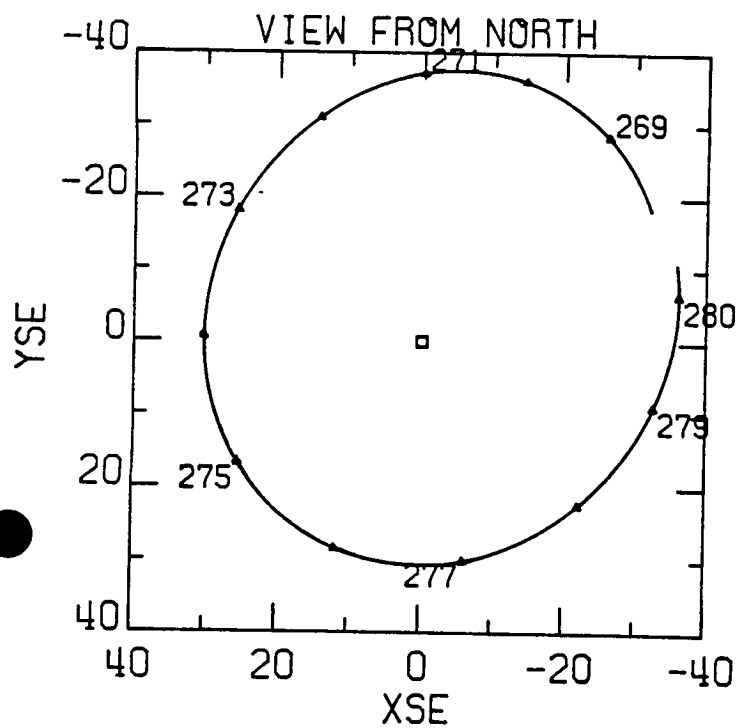
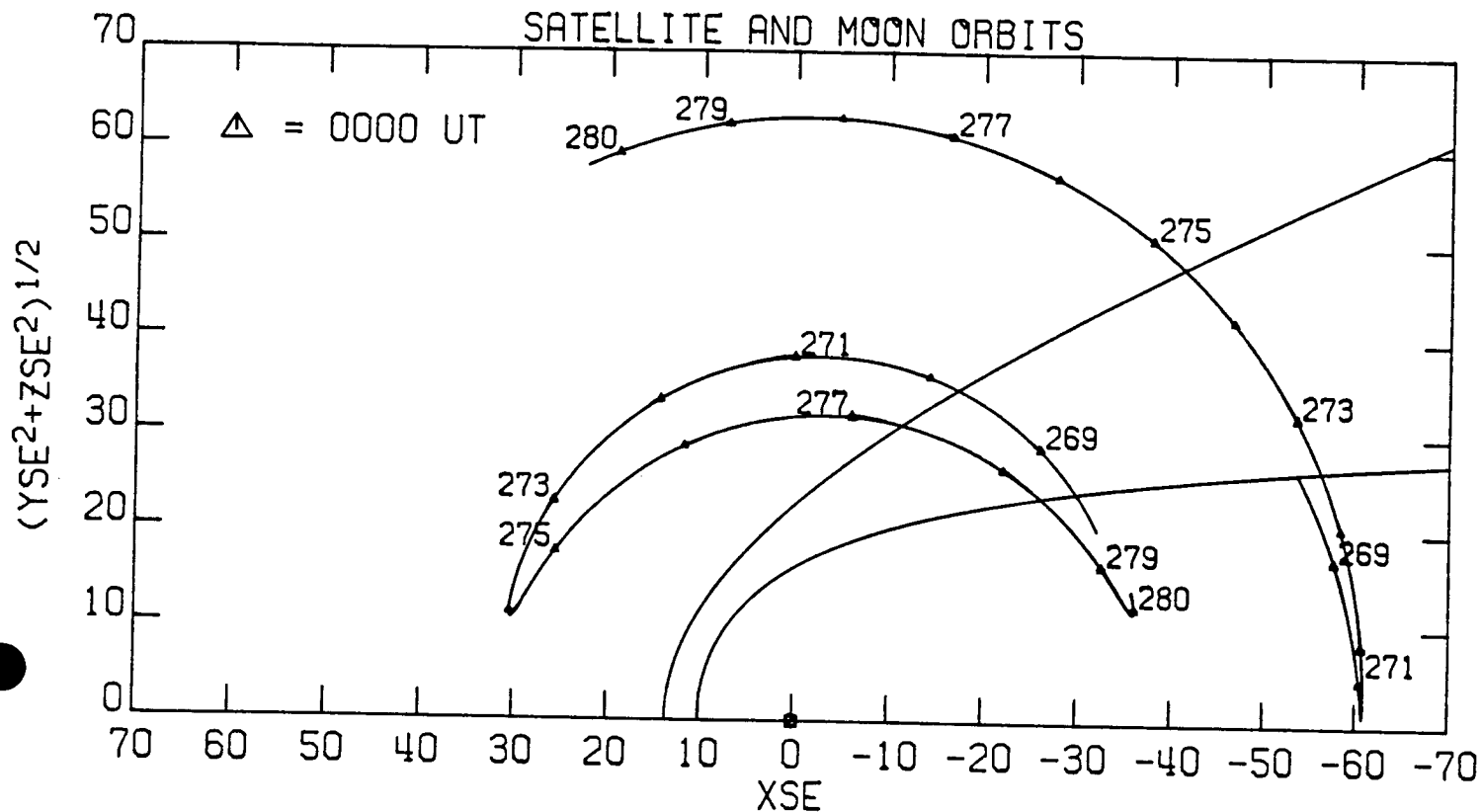
IMP 7 FROM SEP 25 TO OCT 7 1977



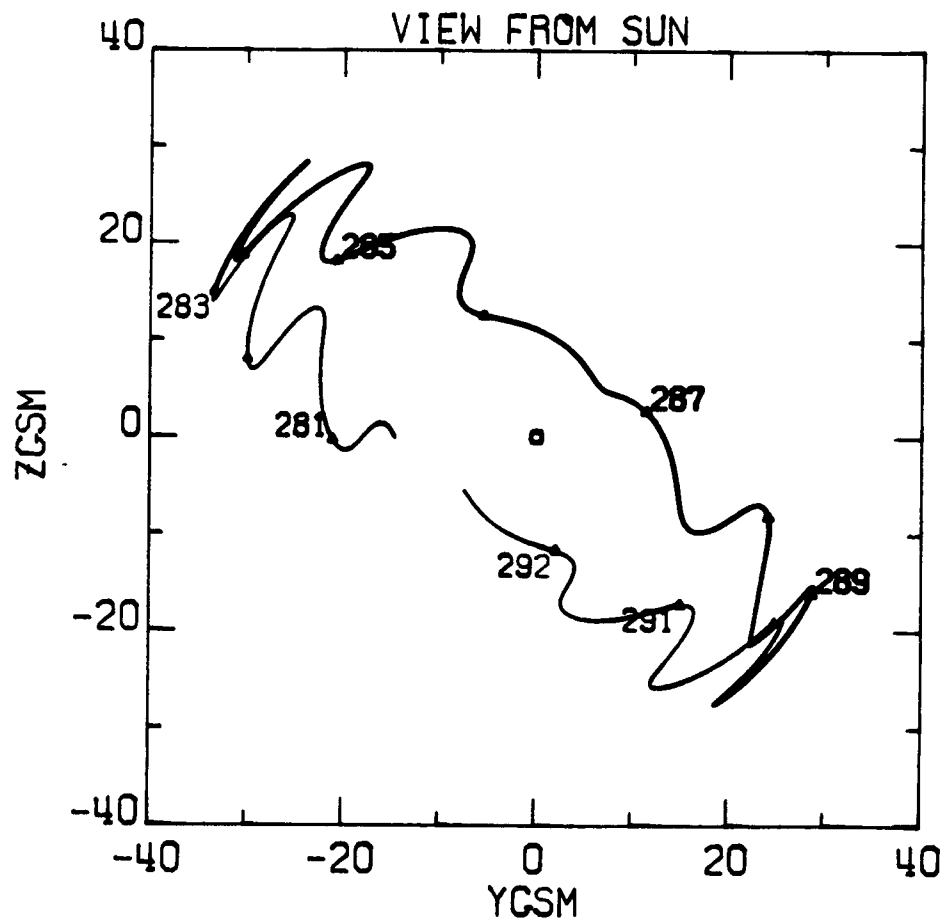
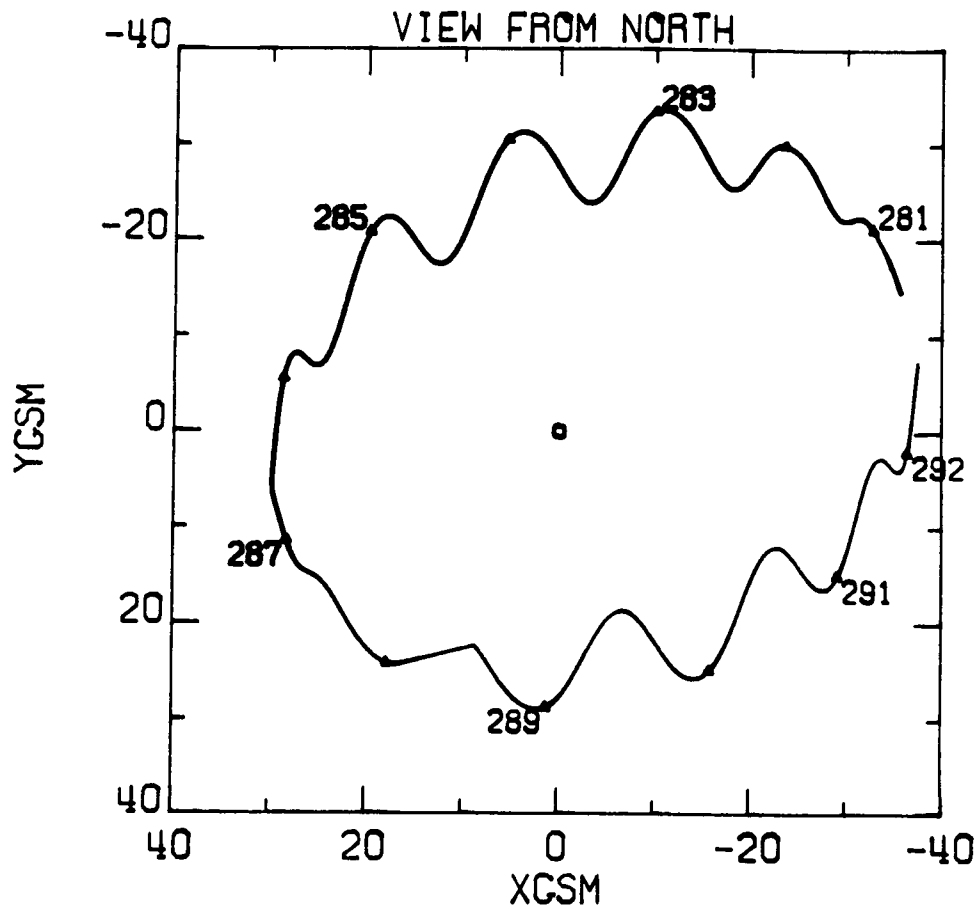
IMP 7 TRAJECTORY.. ASCENDING NODE 151

FROM SEP 25 TO OCT 7 1977

DAYS 268 THRU 280



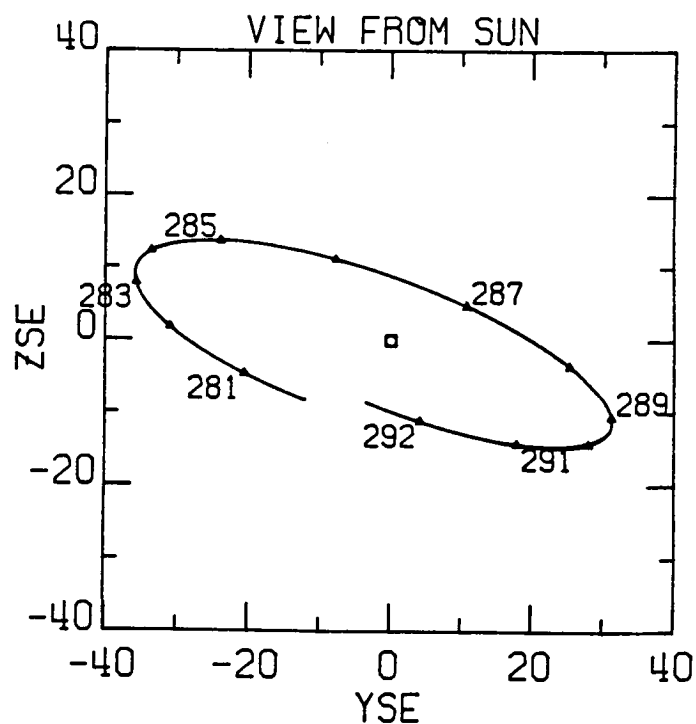
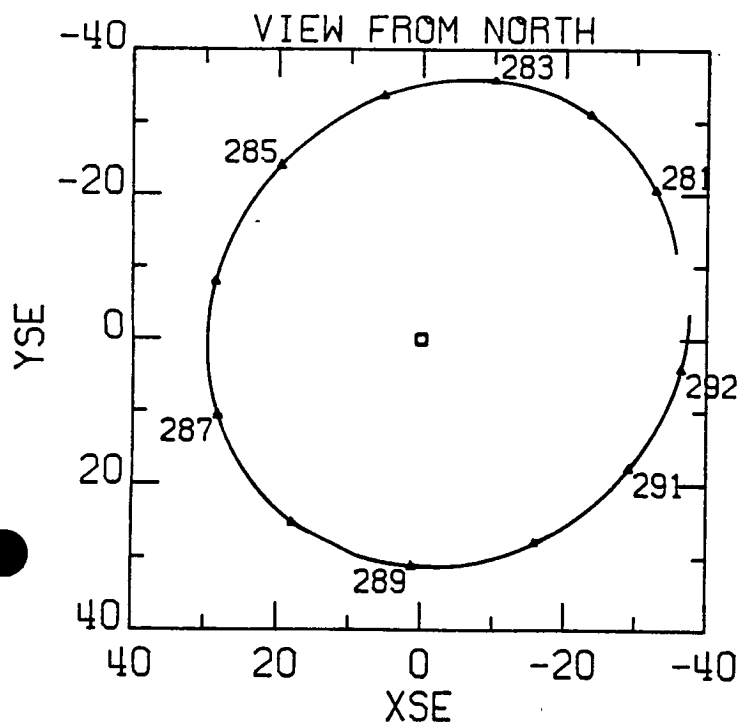
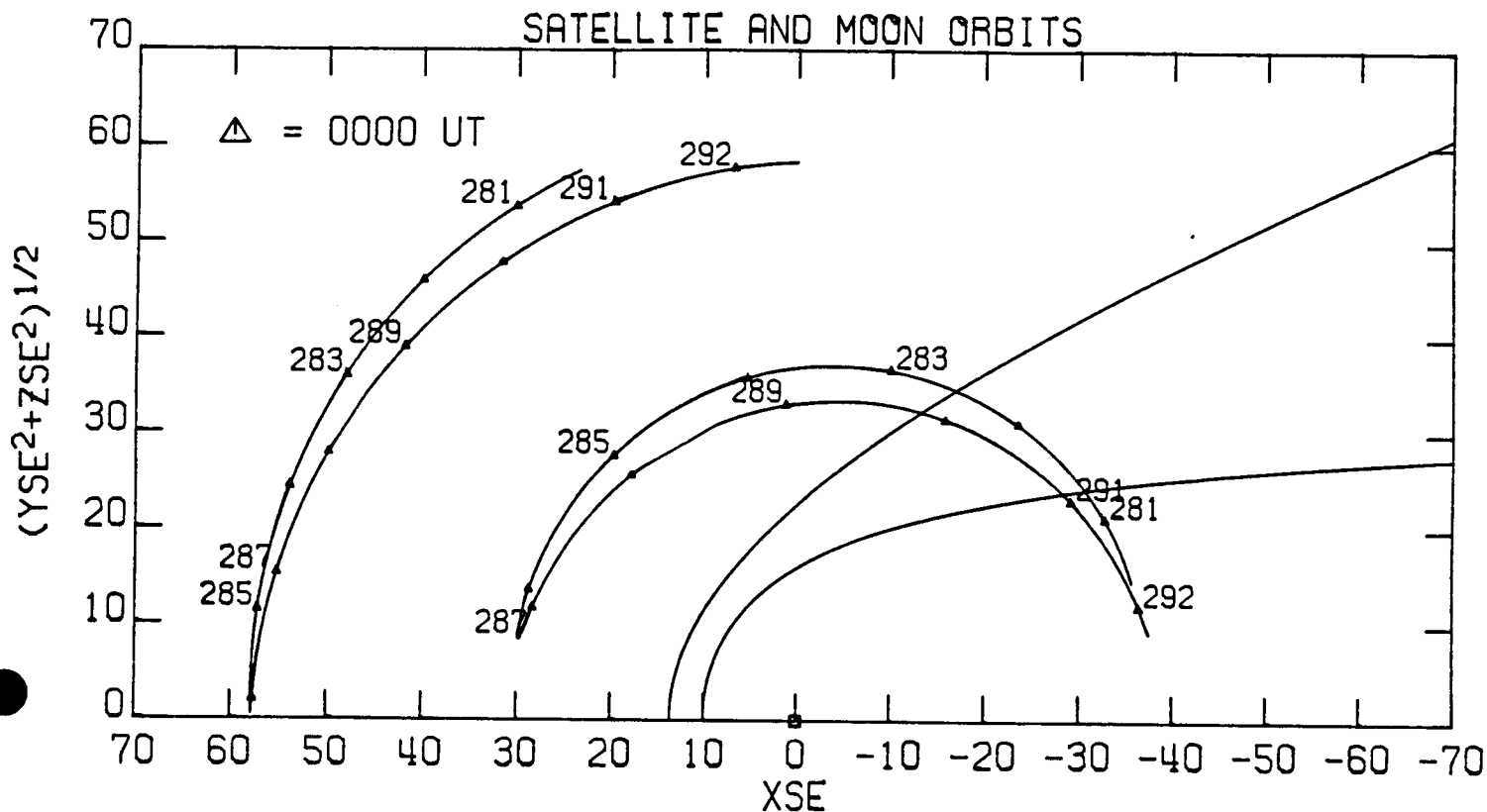
IMP 7 FROM OCT 7 TO OCT 19 1977



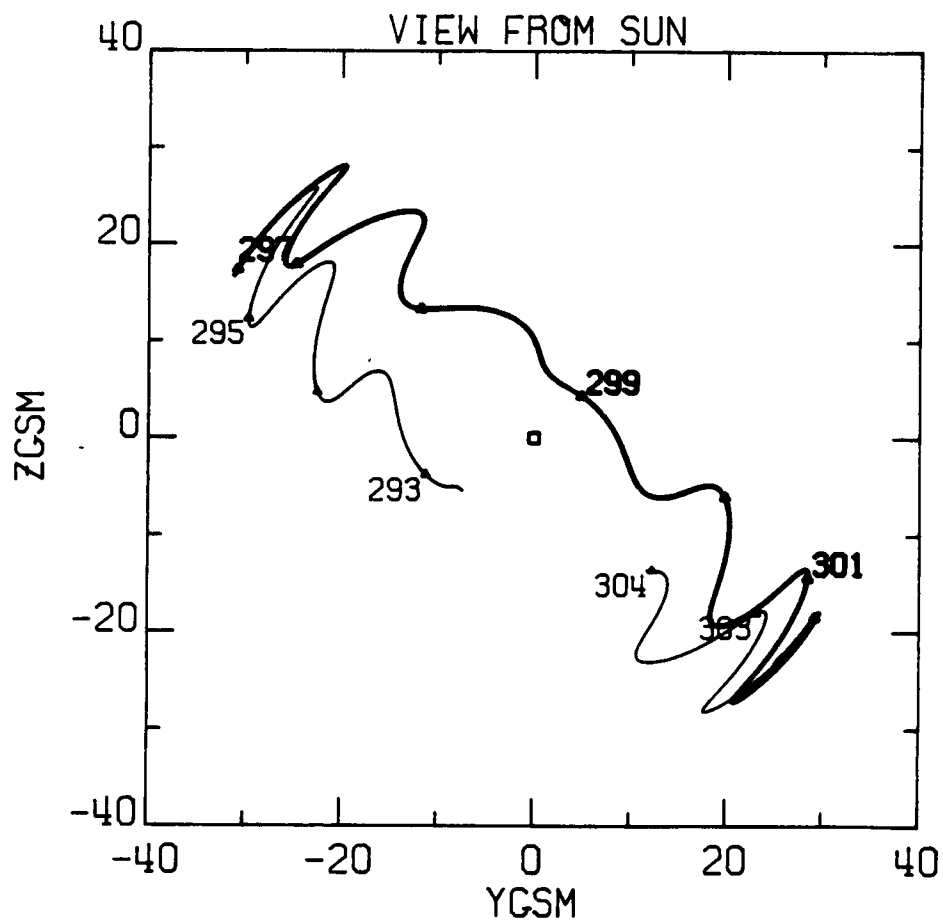
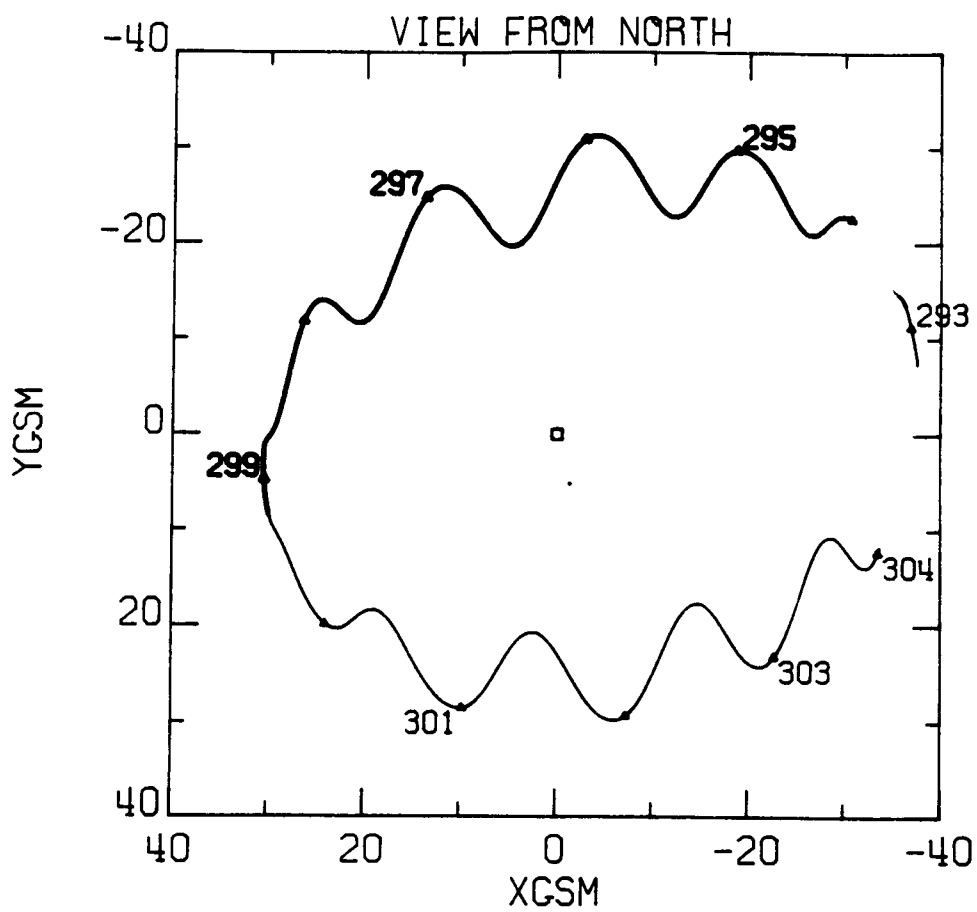
IMP 7 TRAJECTORY. ASCENDING NODE 152

FROM OCT 7 TO OCT 19 1977

DAYS 280 THRU 292



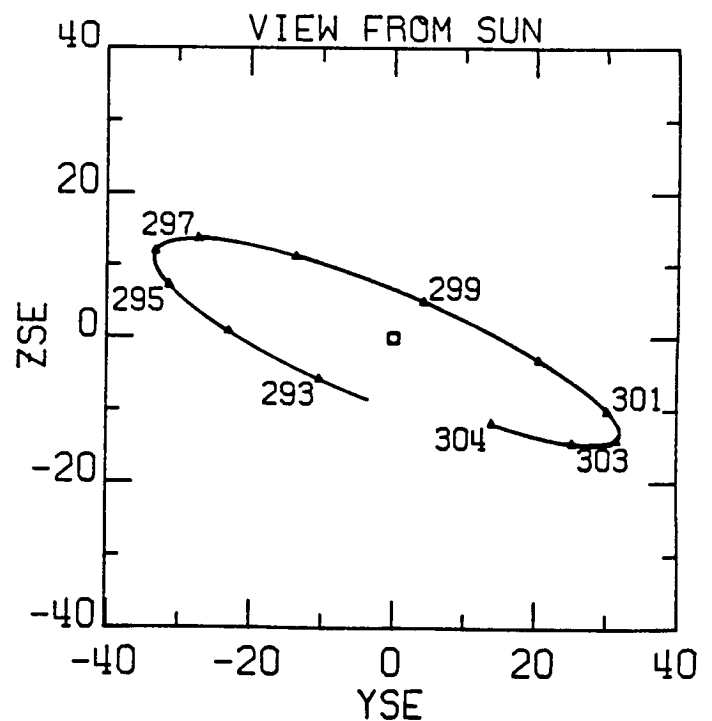
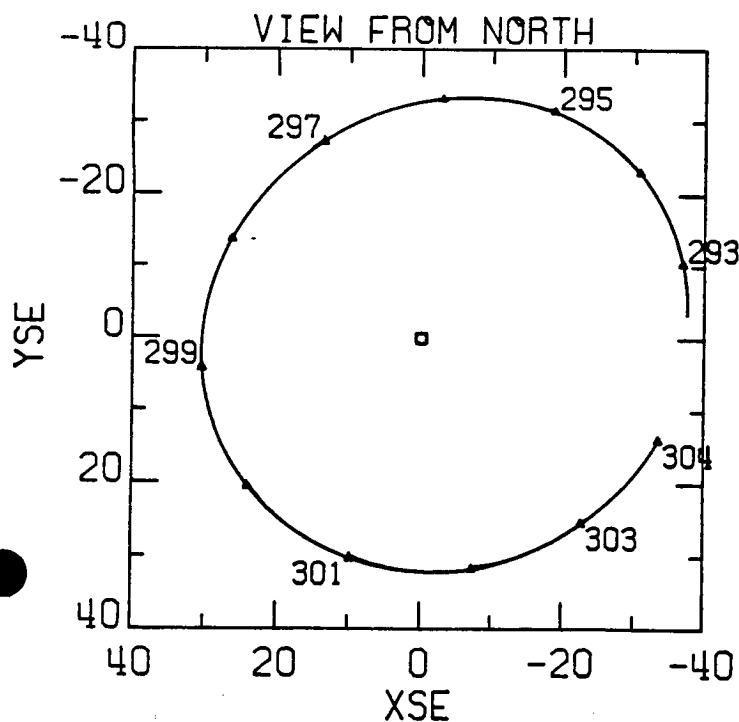
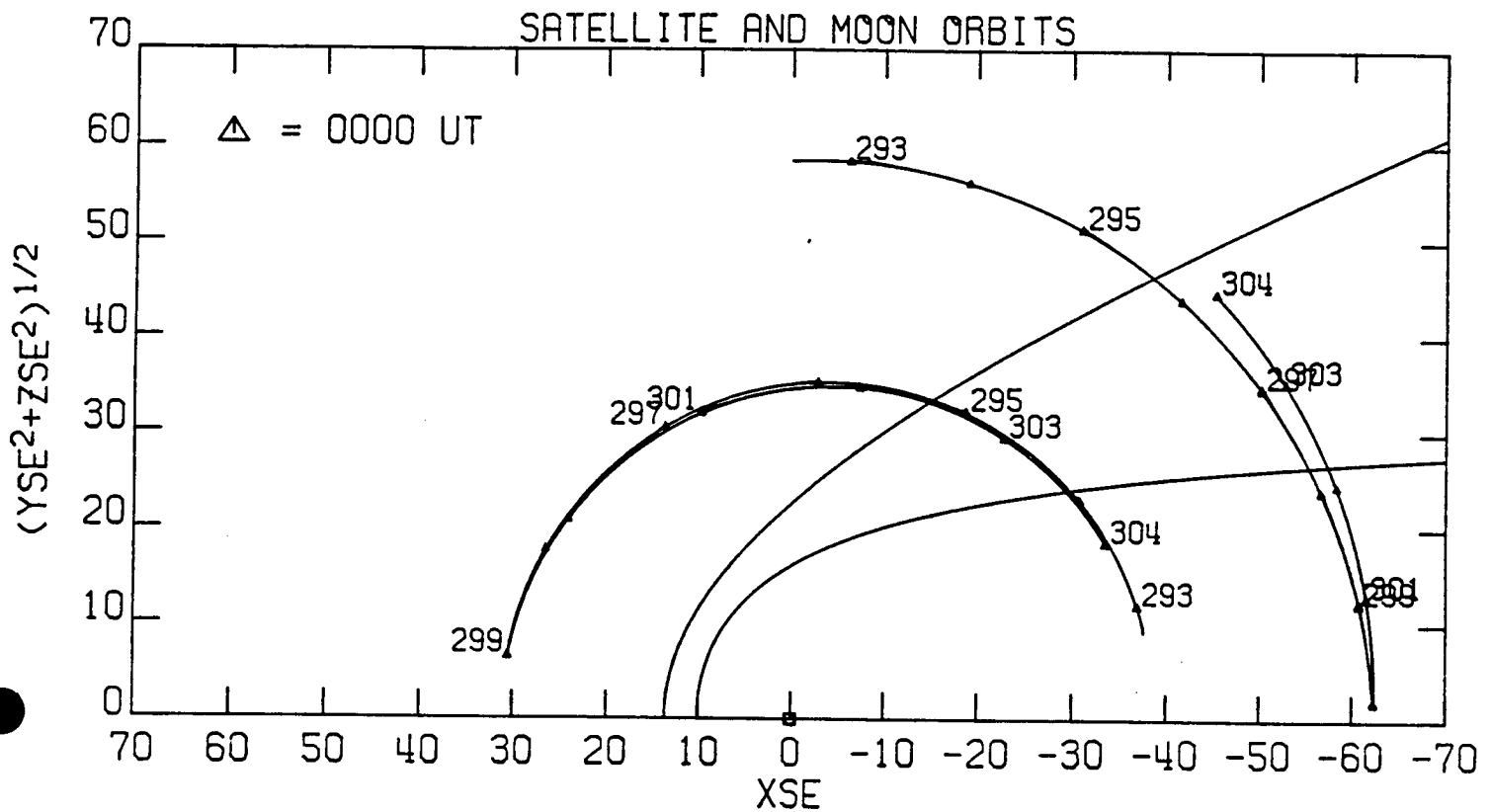
IMP 7 FROM OCT 19 TO OCT 31 1977



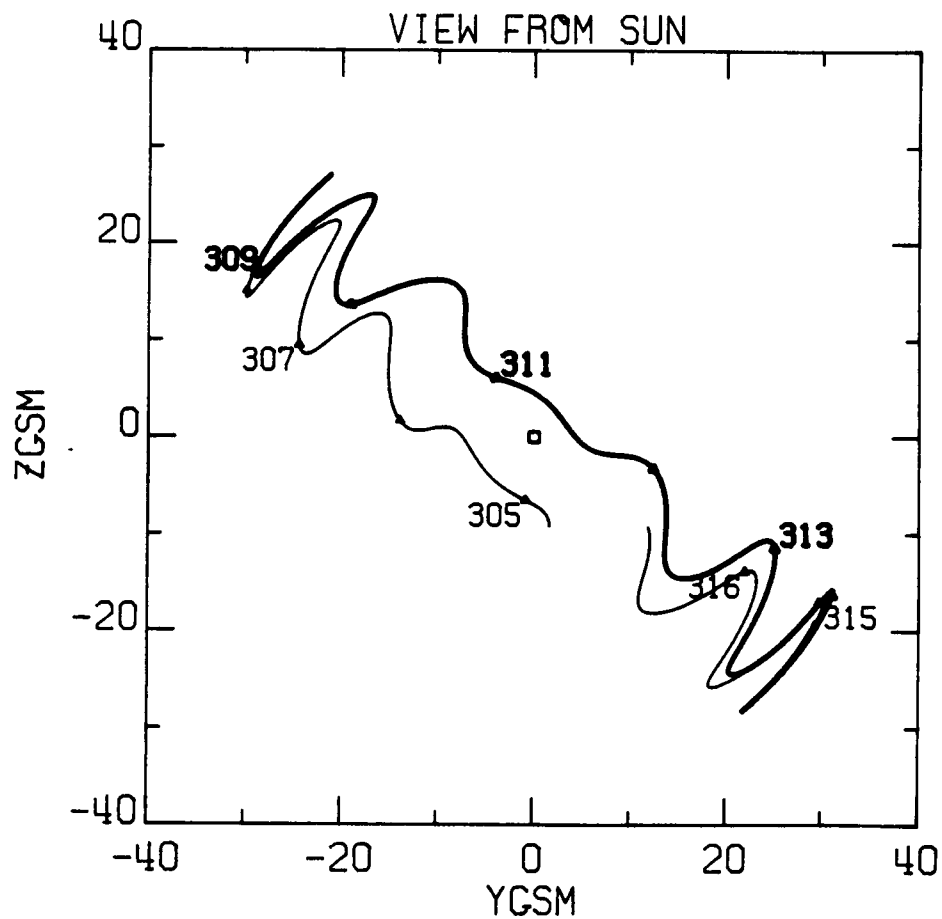
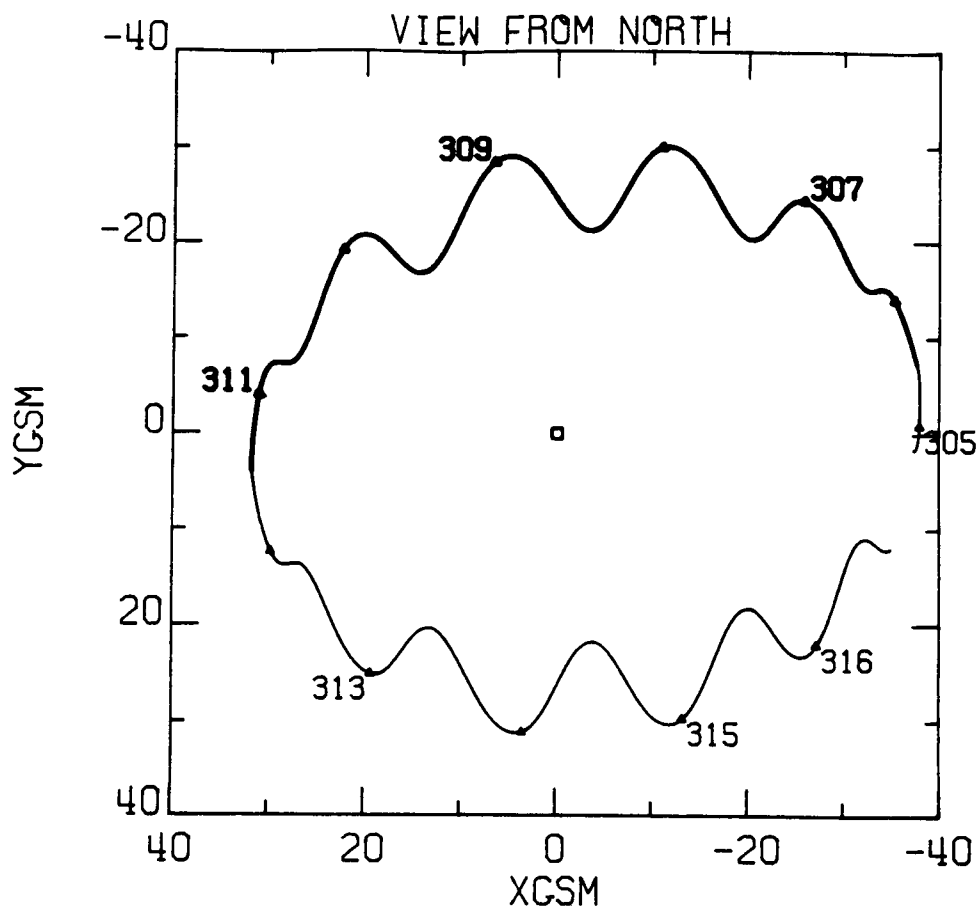
IMP 7 TRAJECTORY. ASCENDING NODE 153

FROM OCT 19 TO OCT 31 1977

DAYS 292 THRU 304



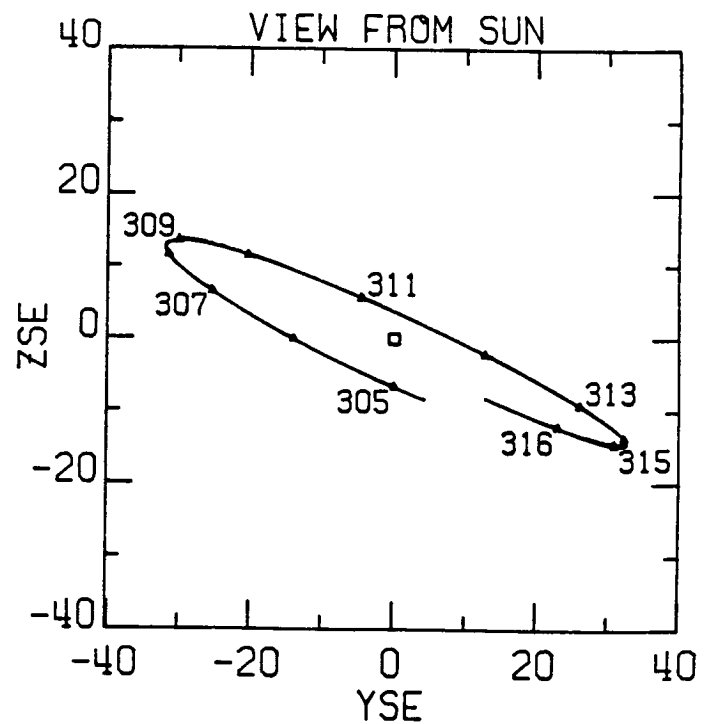
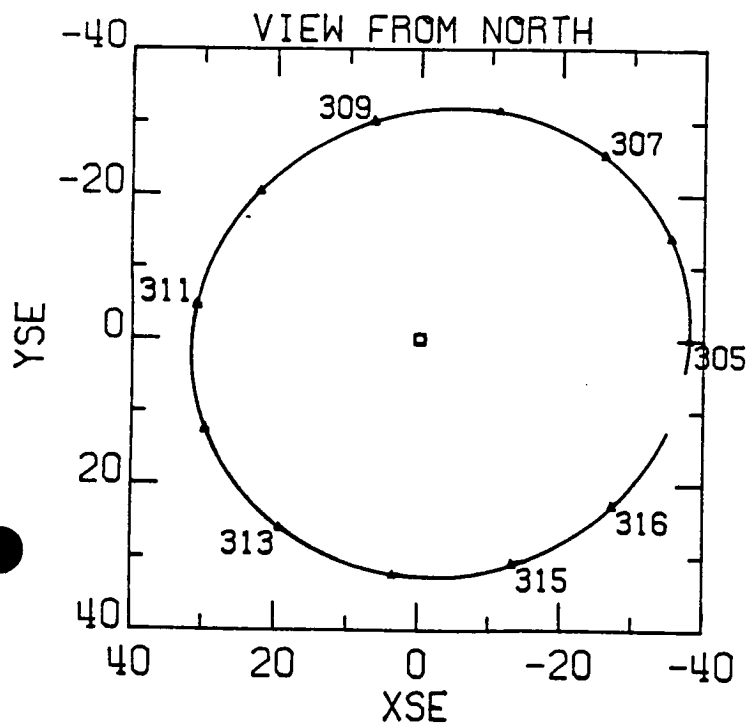
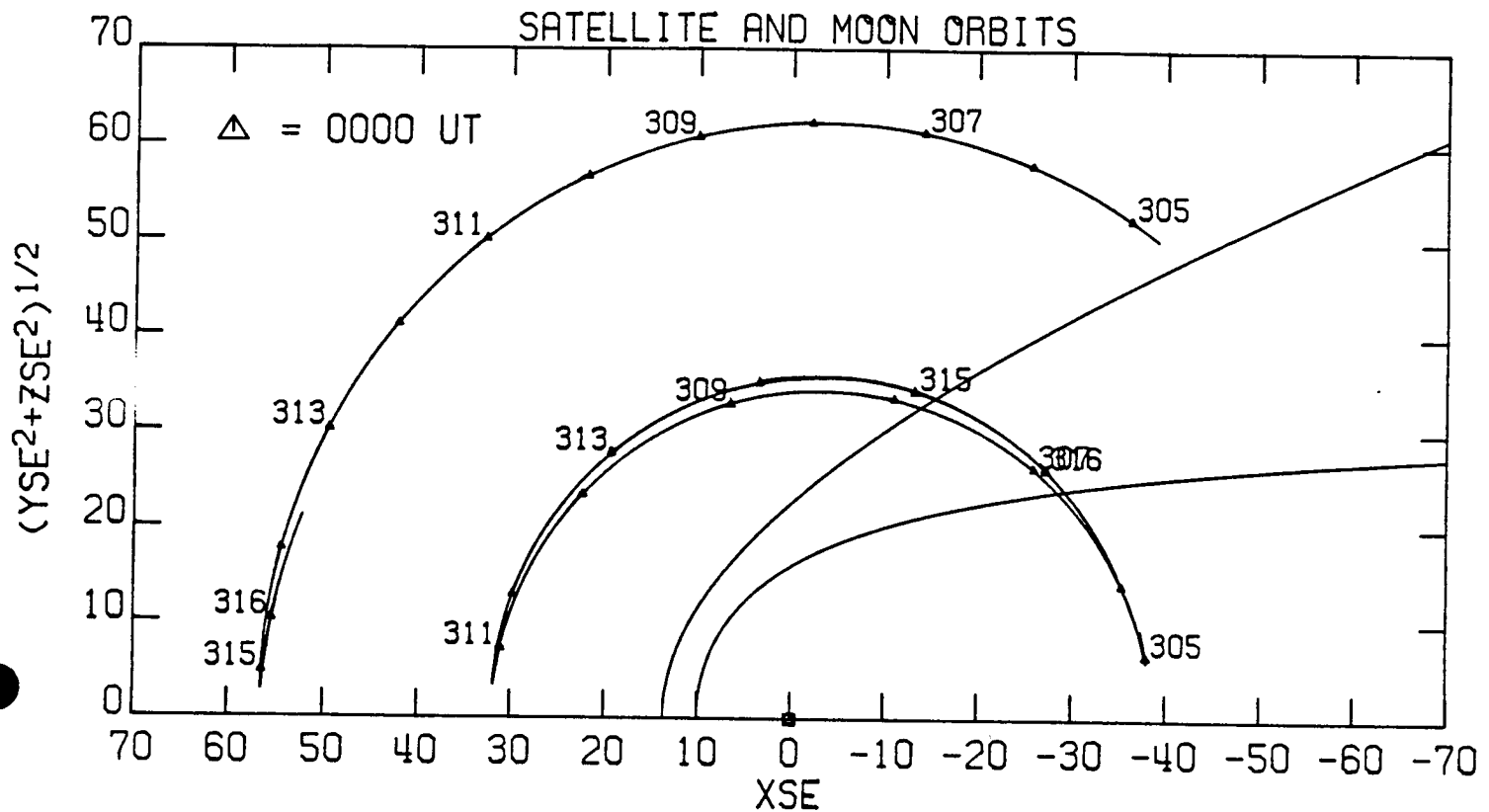
IMP 7 FROM OCT 31 TO NOV 12 1977



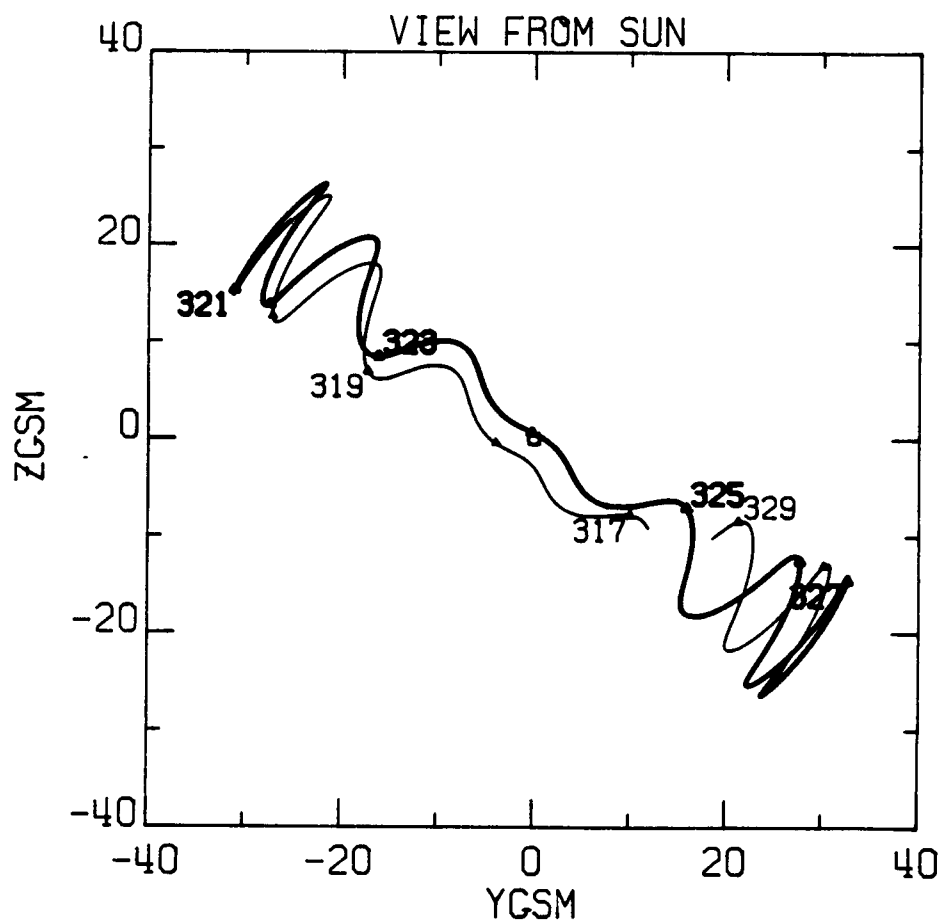
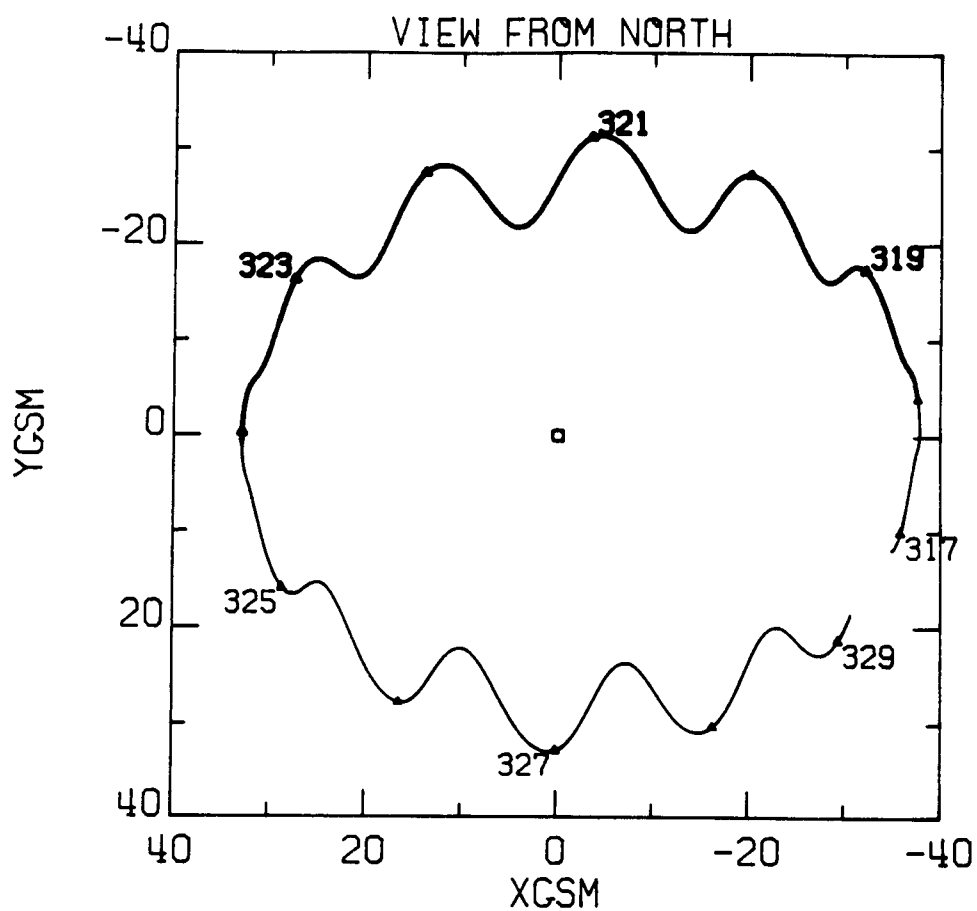
IMP 7 TRAJECTORY. ASCENDING NODE 154

FROM OCT 31 TO NOV 12 1977

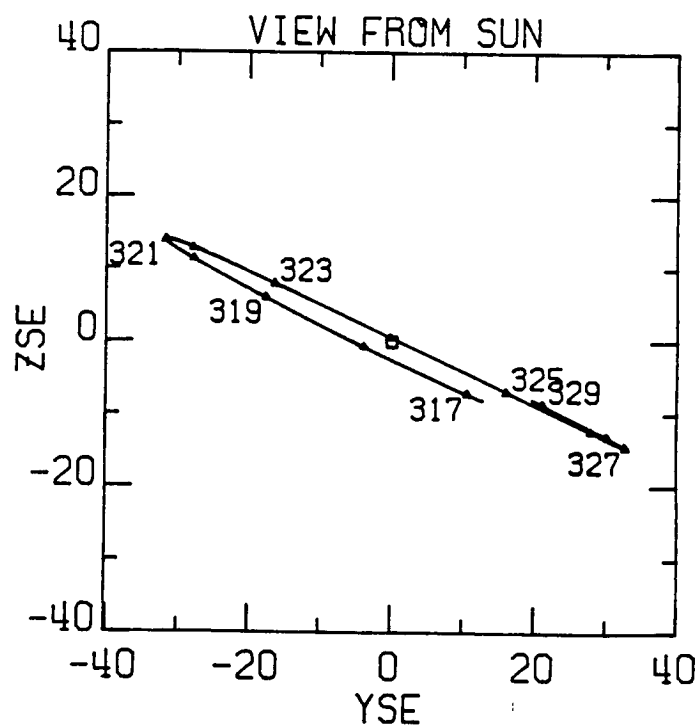
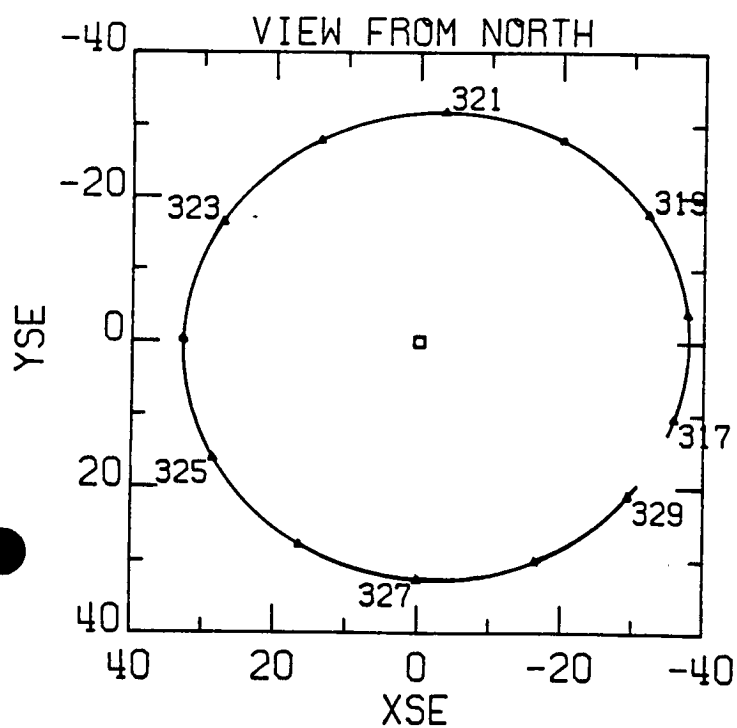
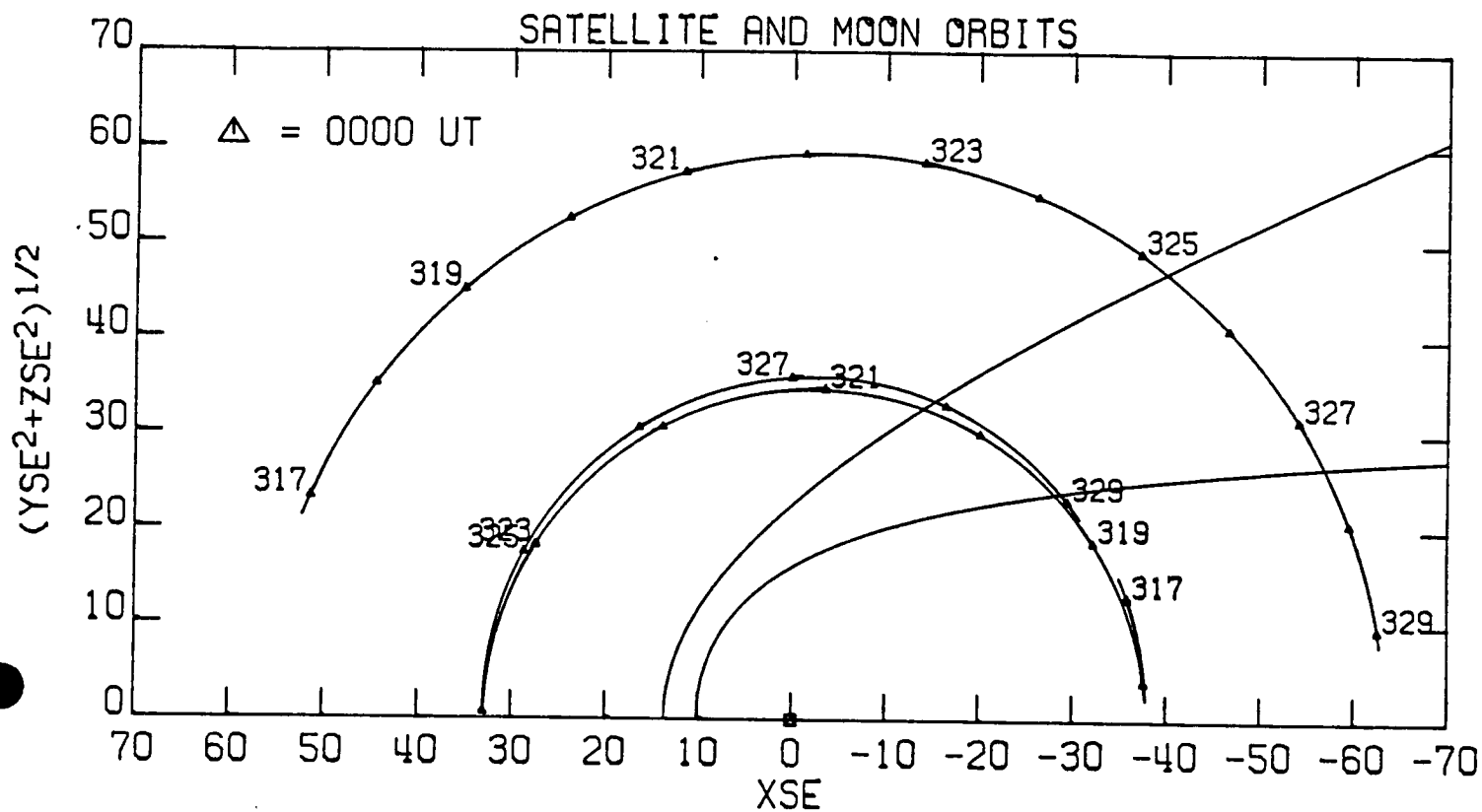
DAYS 304 THRU 316



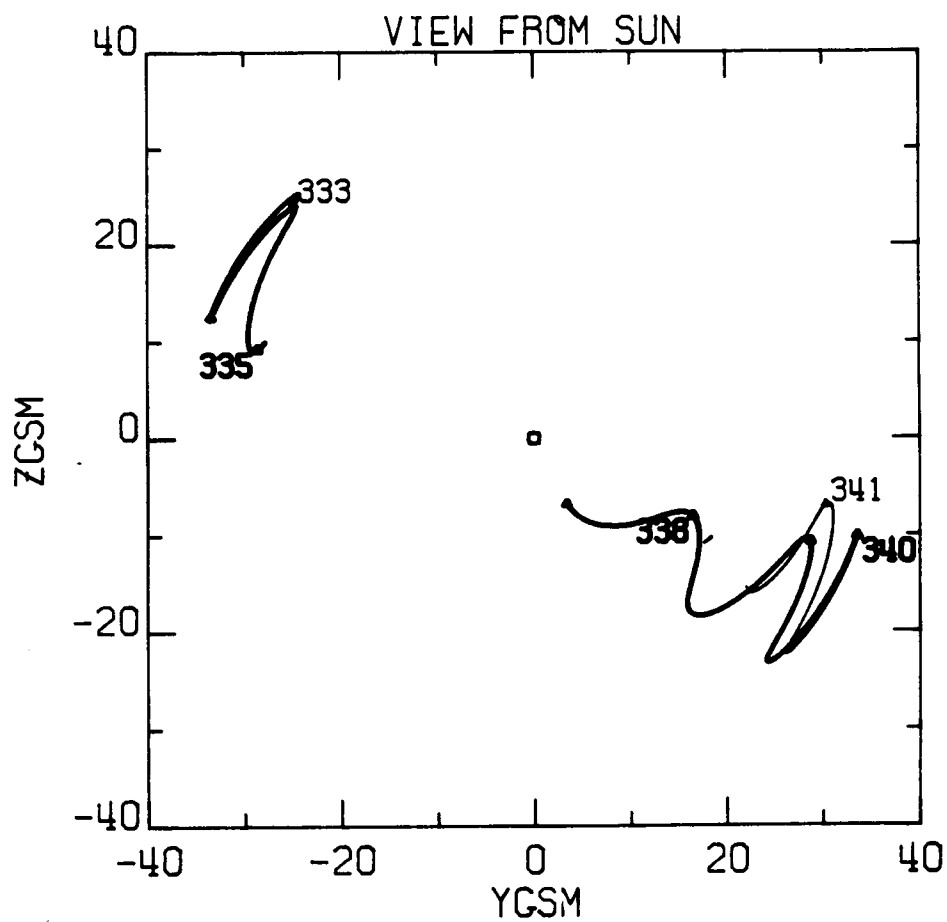
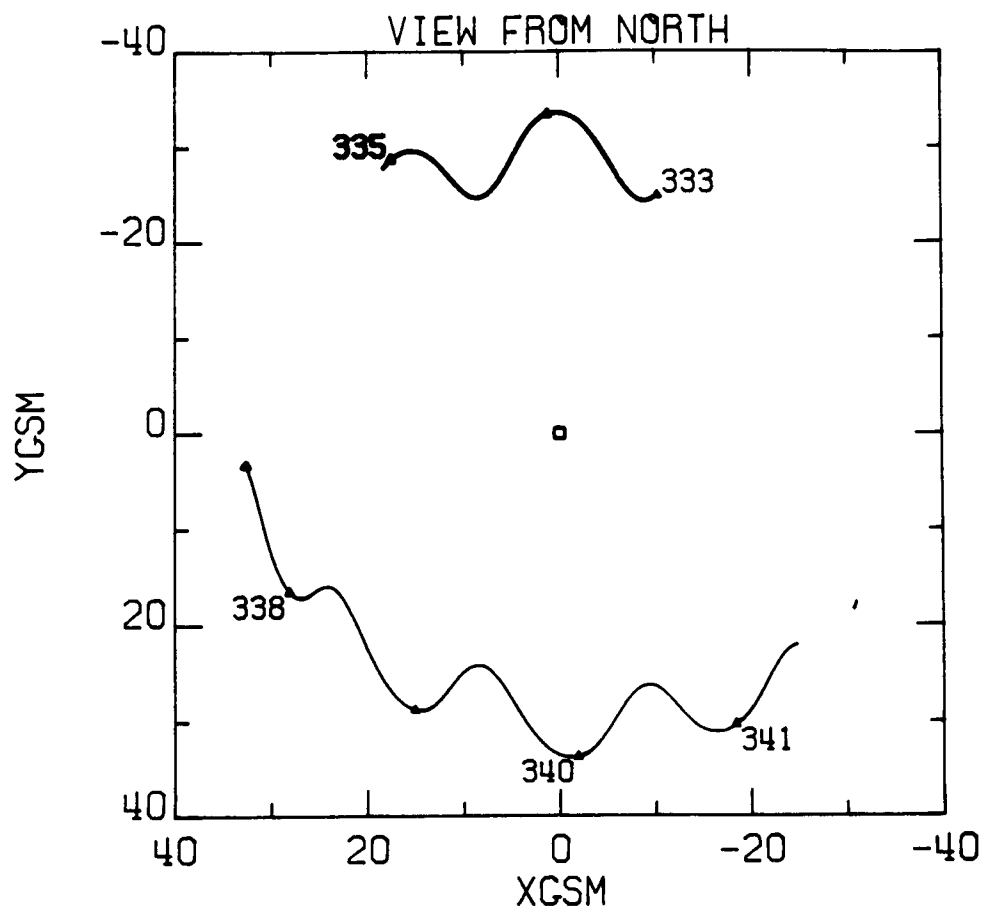
IMP 7 FROM NOV 12 TO NOV 25 1977



IMP 7 TRAJECTORY. ASCENDING NODE 155 FROM NOV 12 TO NOV 25 1977 DAYS 316 THRU 329



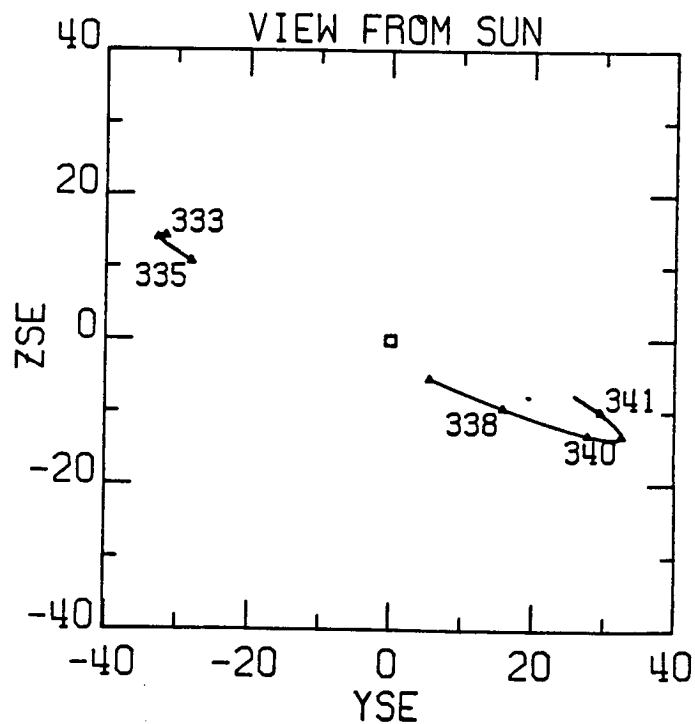
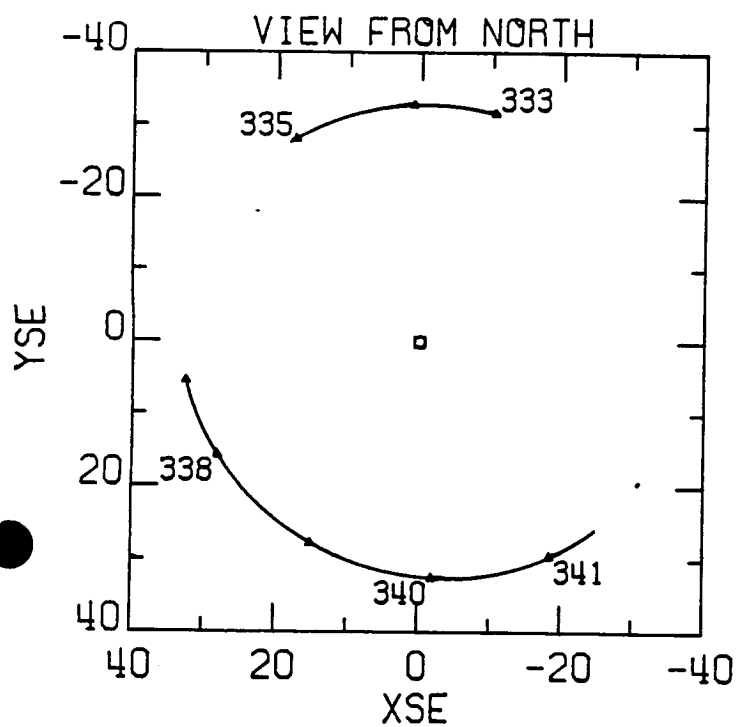
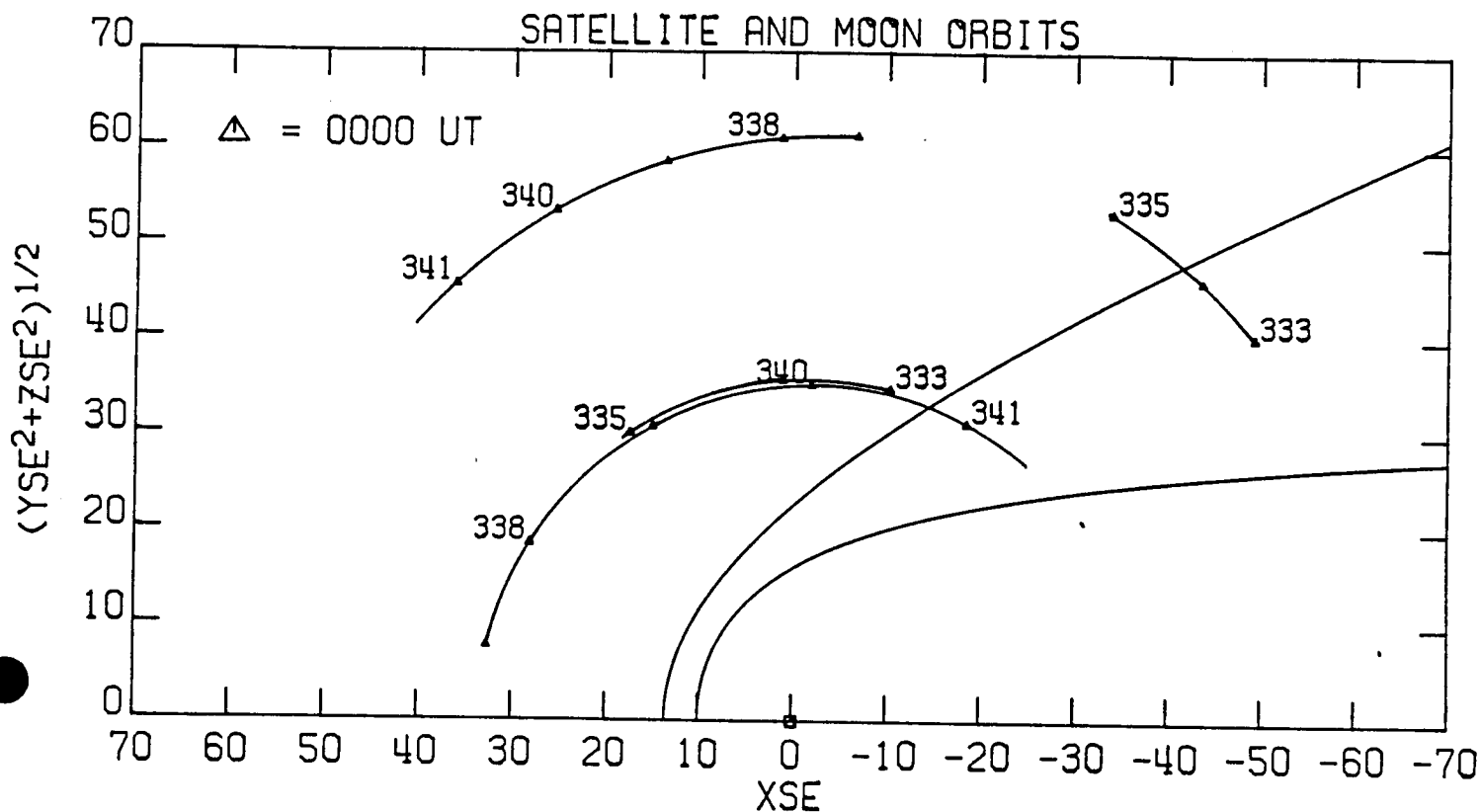
IMP 7 FROM NOV 25 TO DEC 7 1977



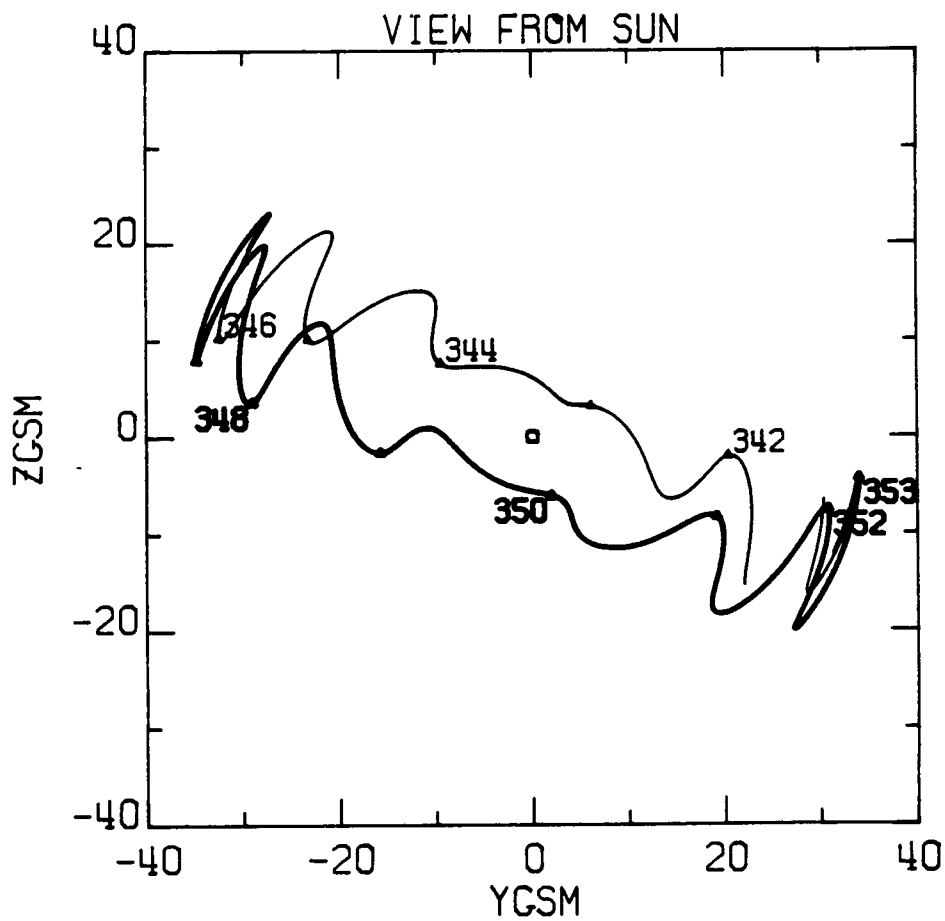
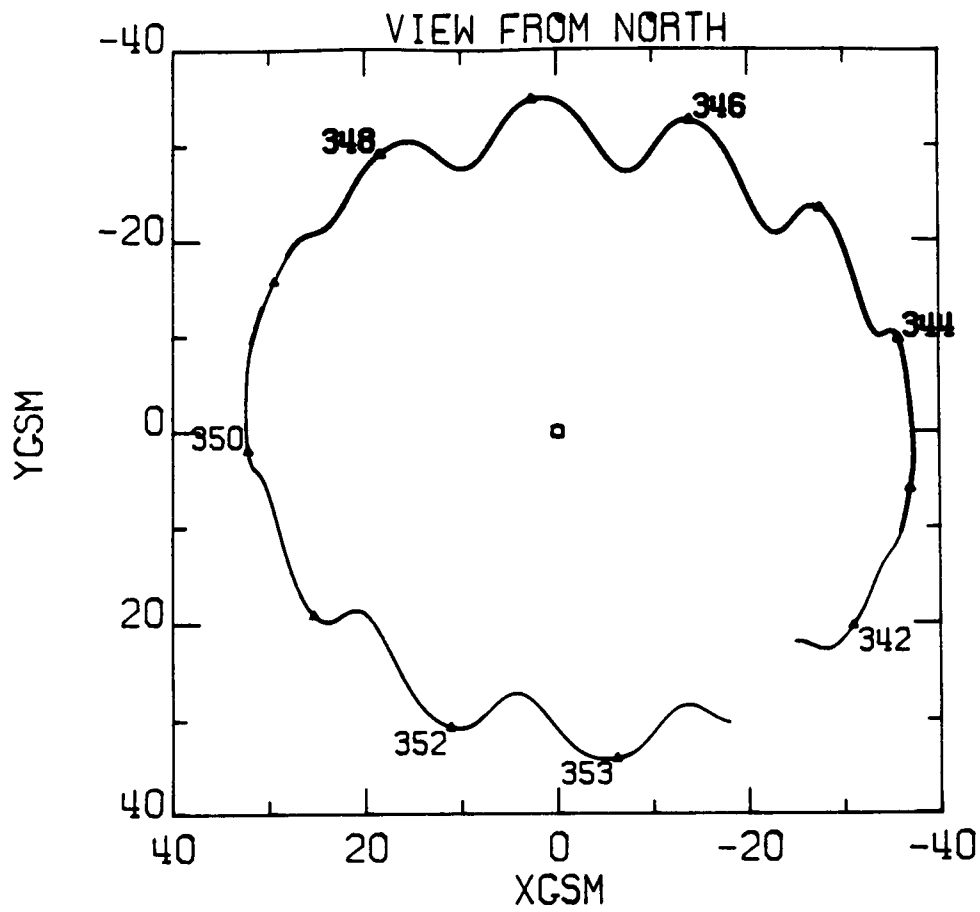
IMP 7 TRAJECTORY. ASCENDING NODE 156

FROM NOV 25 TO DEC 7, 1977

DAYS 329 THRU 341



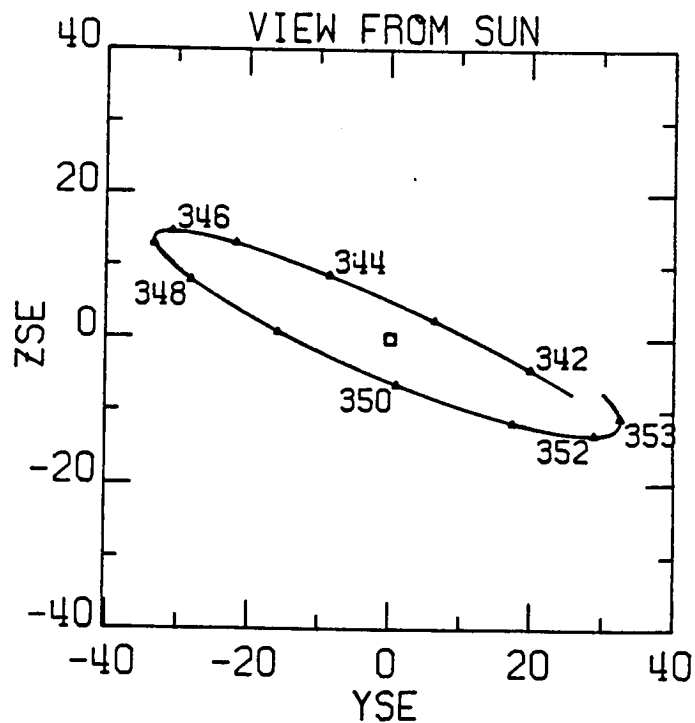
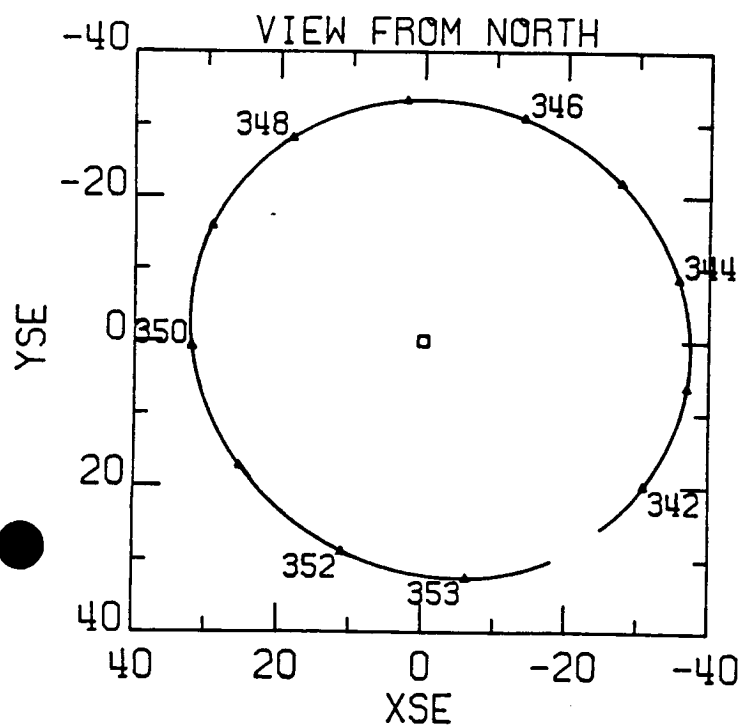
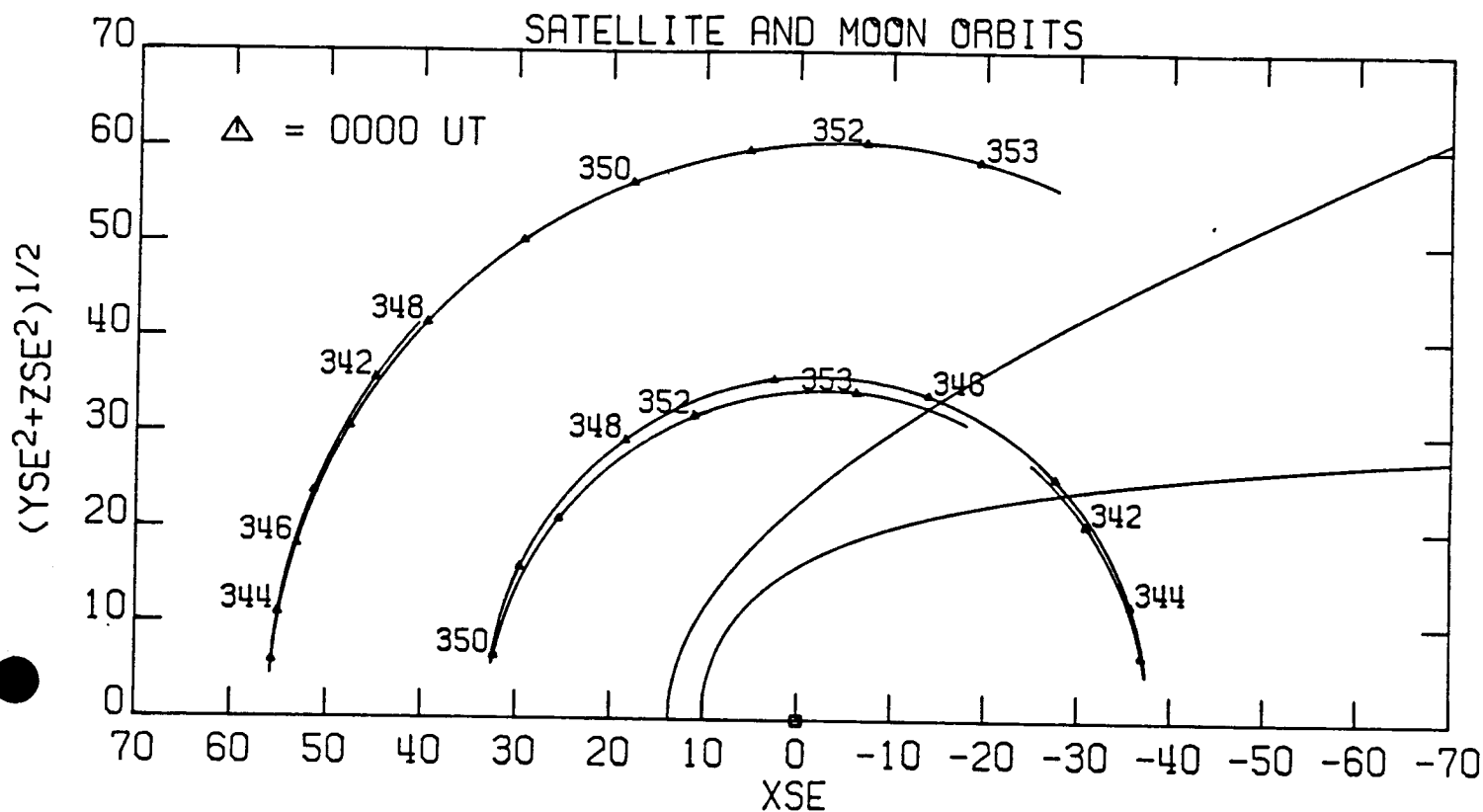
IMP 7 FROM DEC 7 TO DEC 19 1977



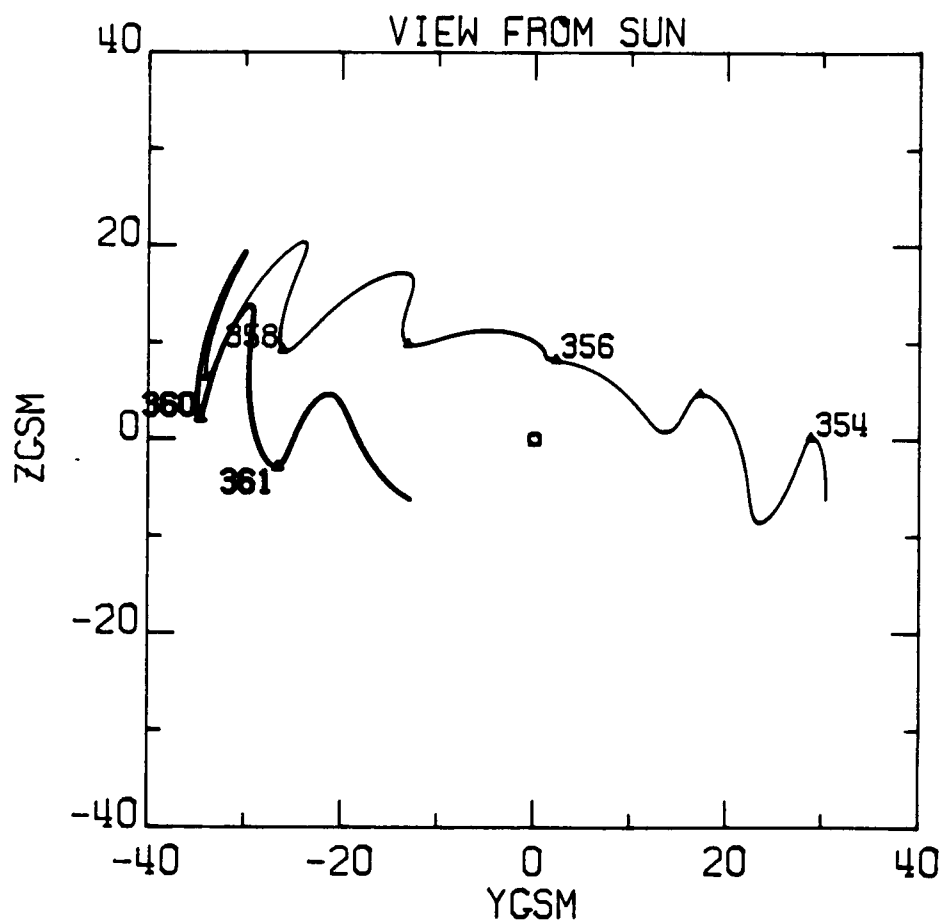
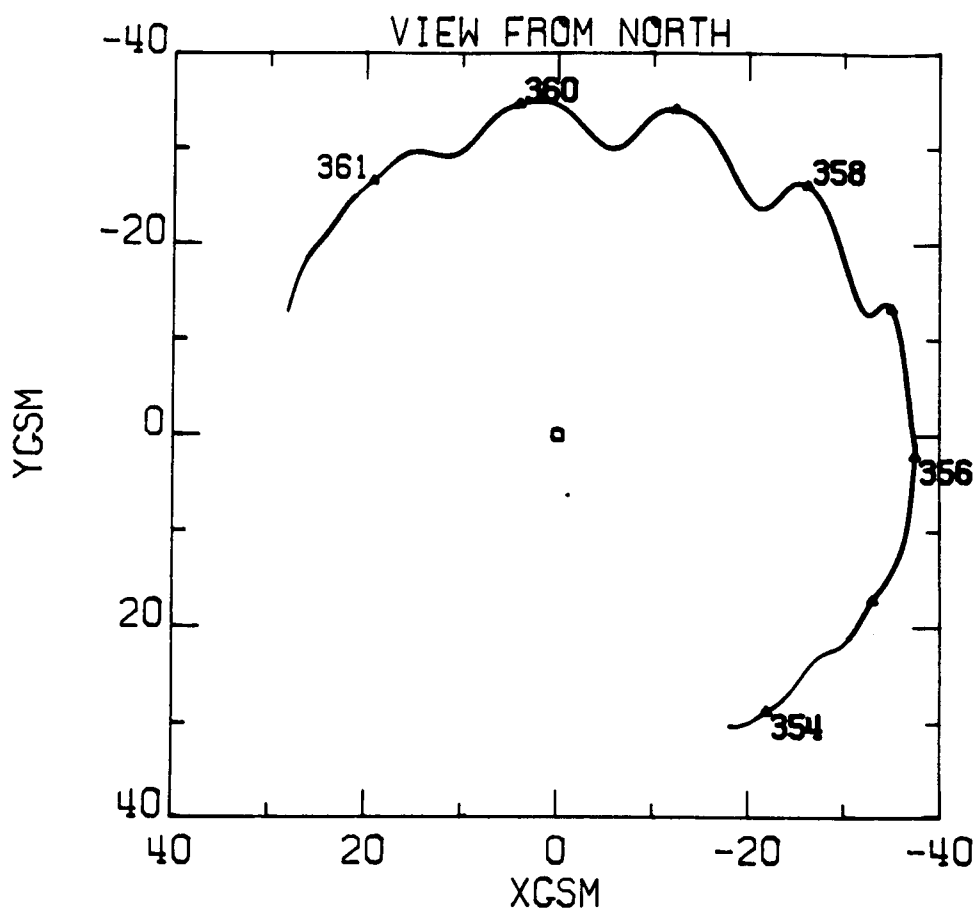
IMP 7 TRAJECTORY. ASCENDING NODE 157

FROM DEC 7 TO DEC 19 1977

DAYS 341 THRU 353



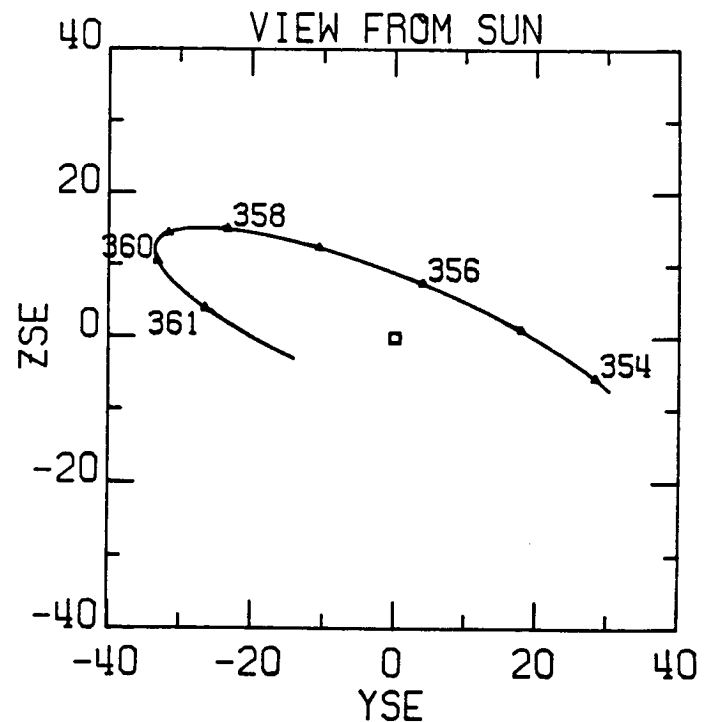
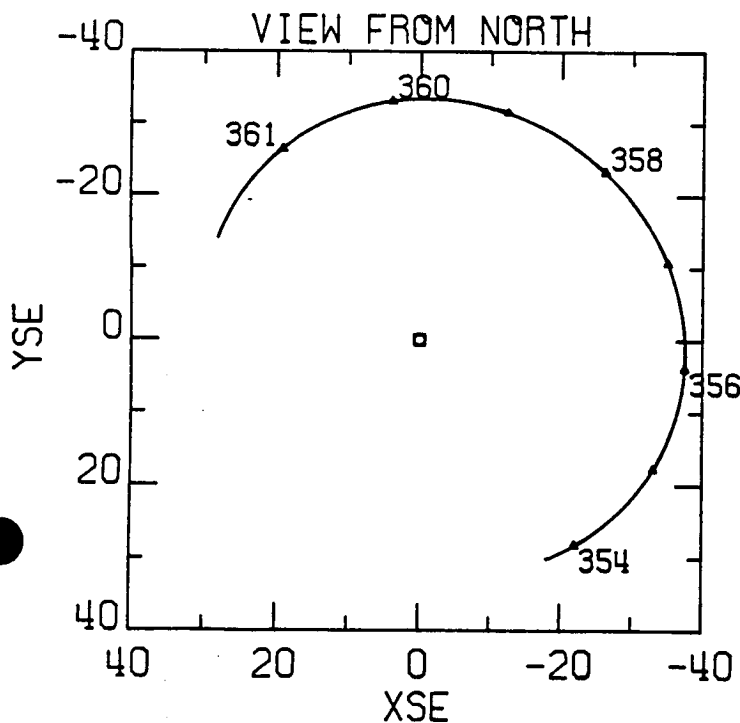
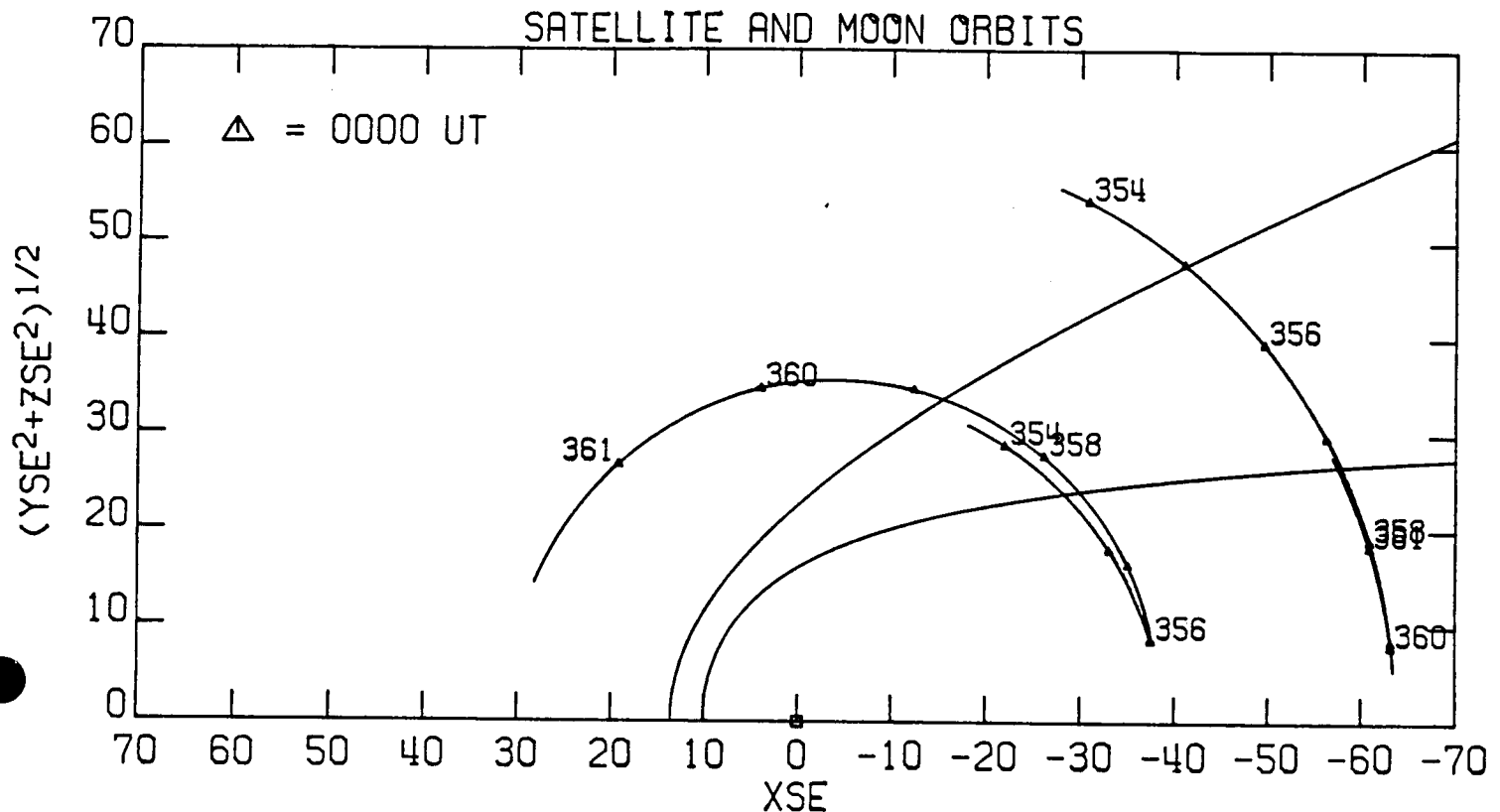
IMP 7 FROM DEC 19 TO DEC 31 1977



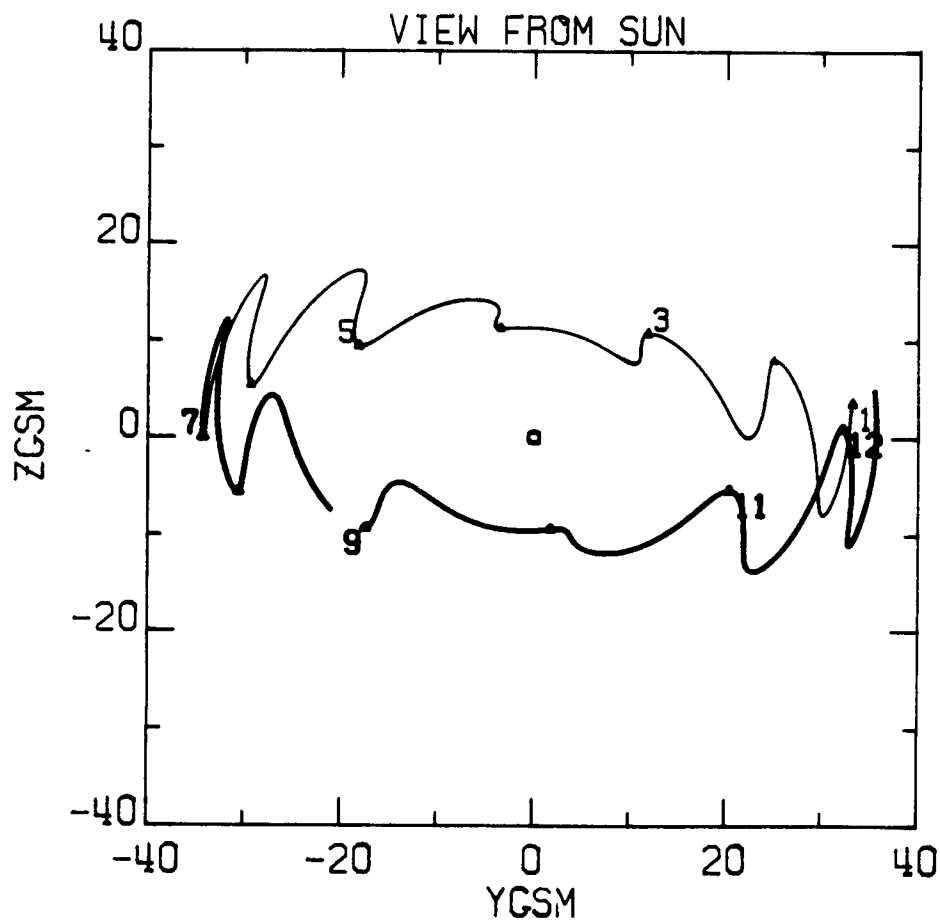
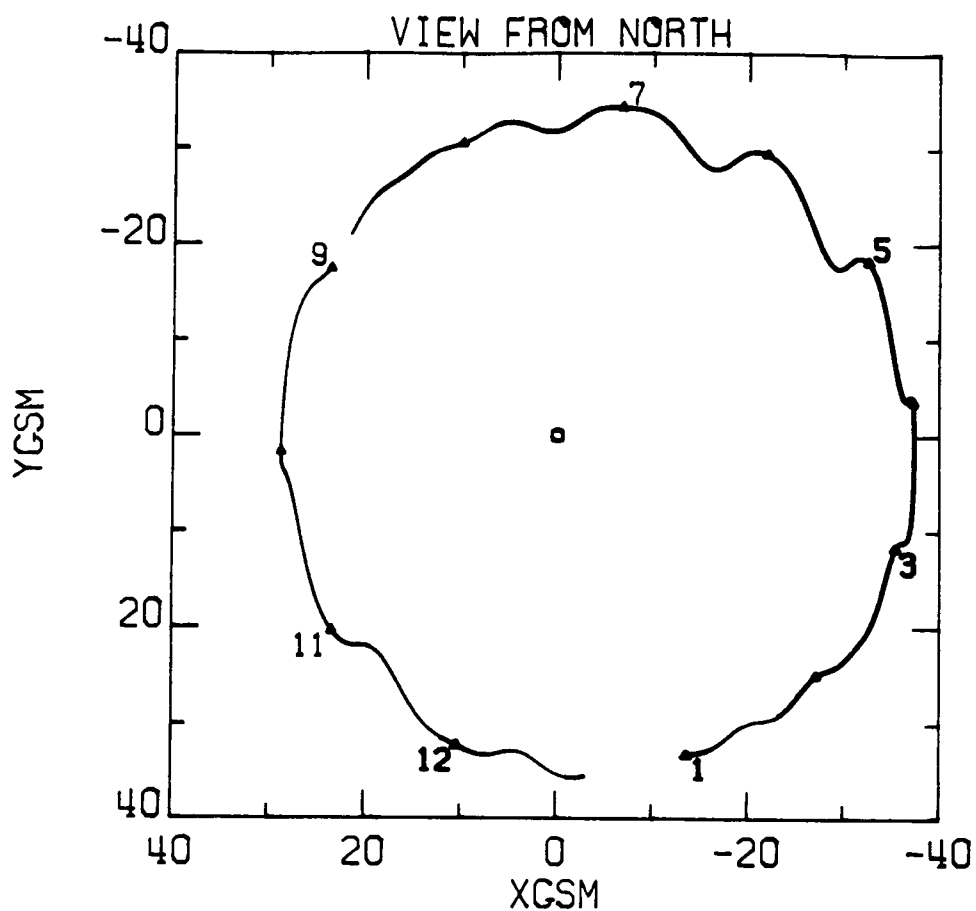
IMP 7 TRAJECTORY. ASCENDING NODE 158

FROM DEC 19 TO DEC 31 1977

DAYS 353 THRU 361



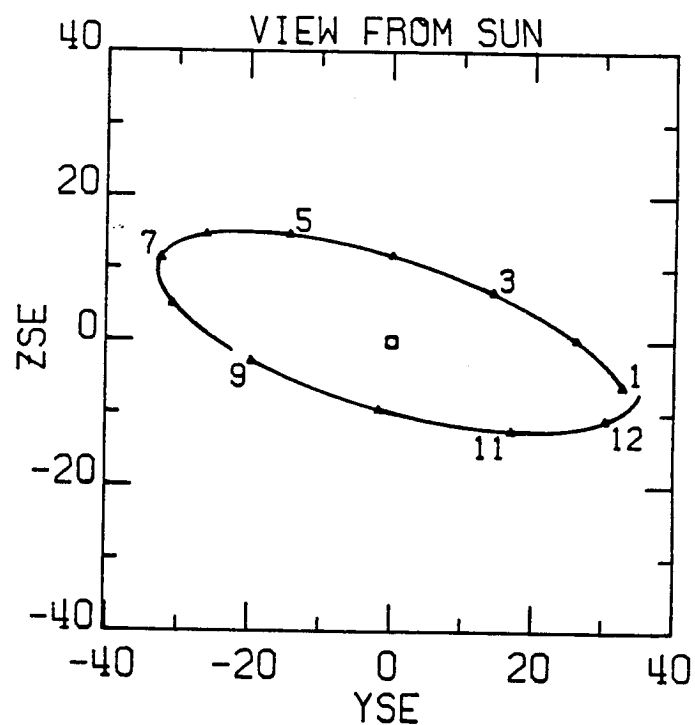
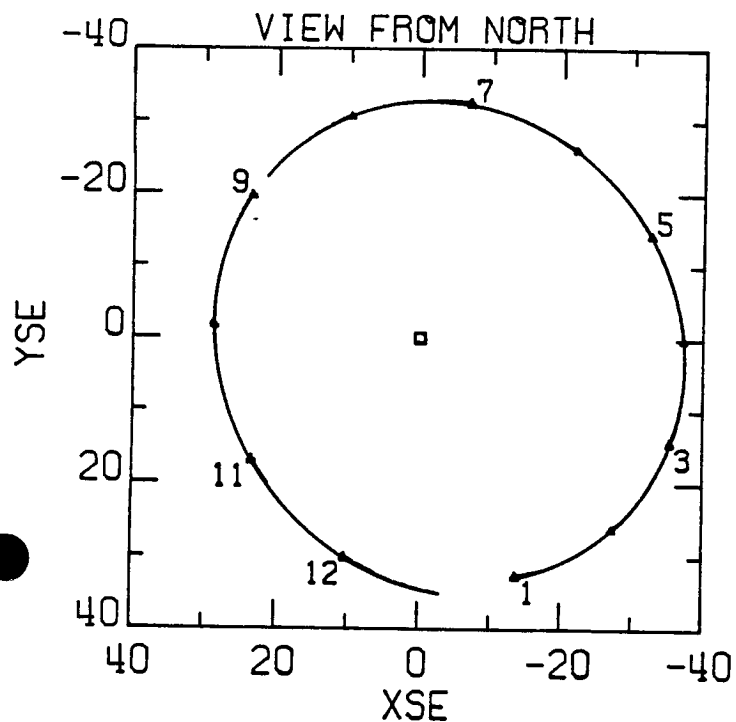
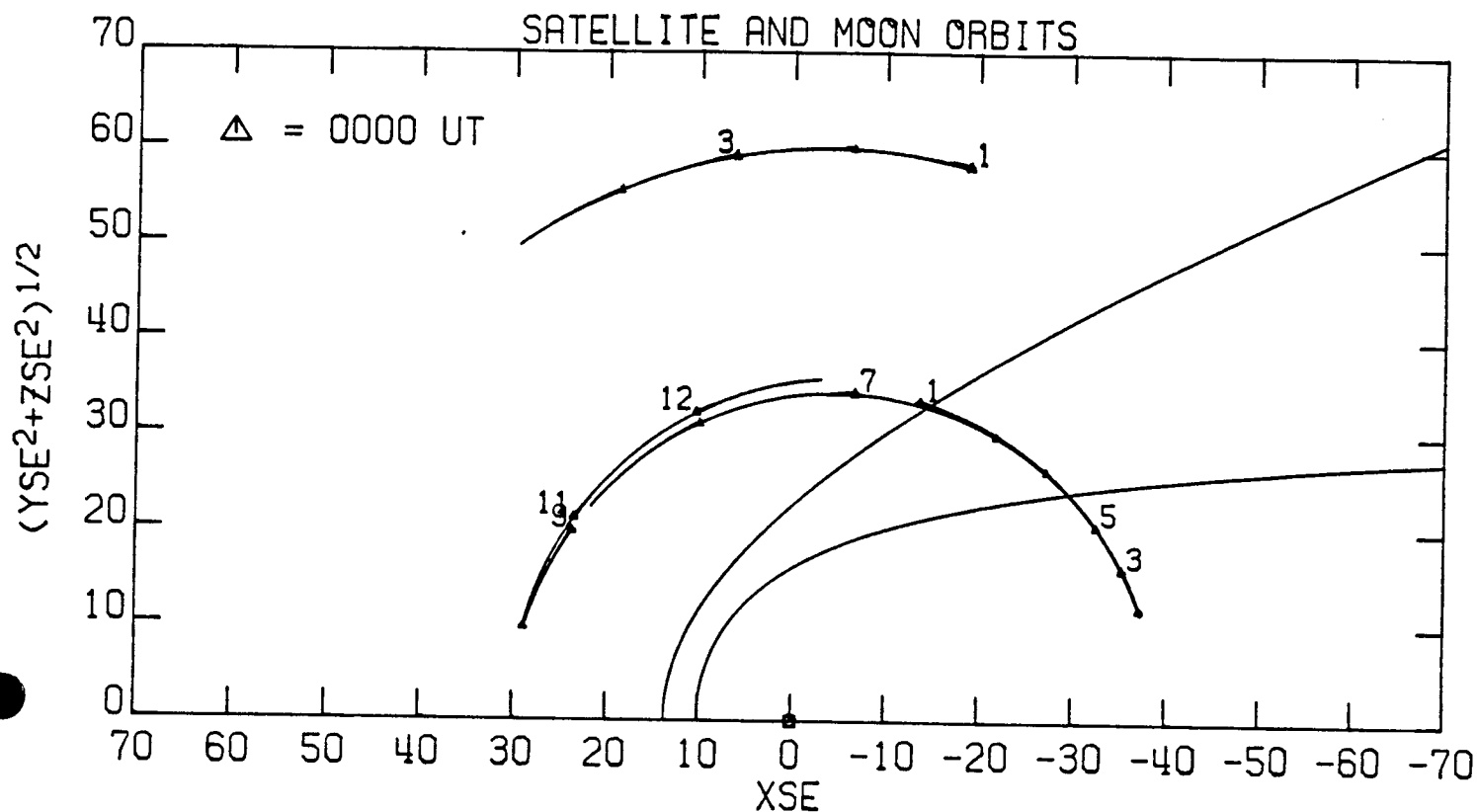
IMP 7 FROM DEC 31 TO JAN 12 1978



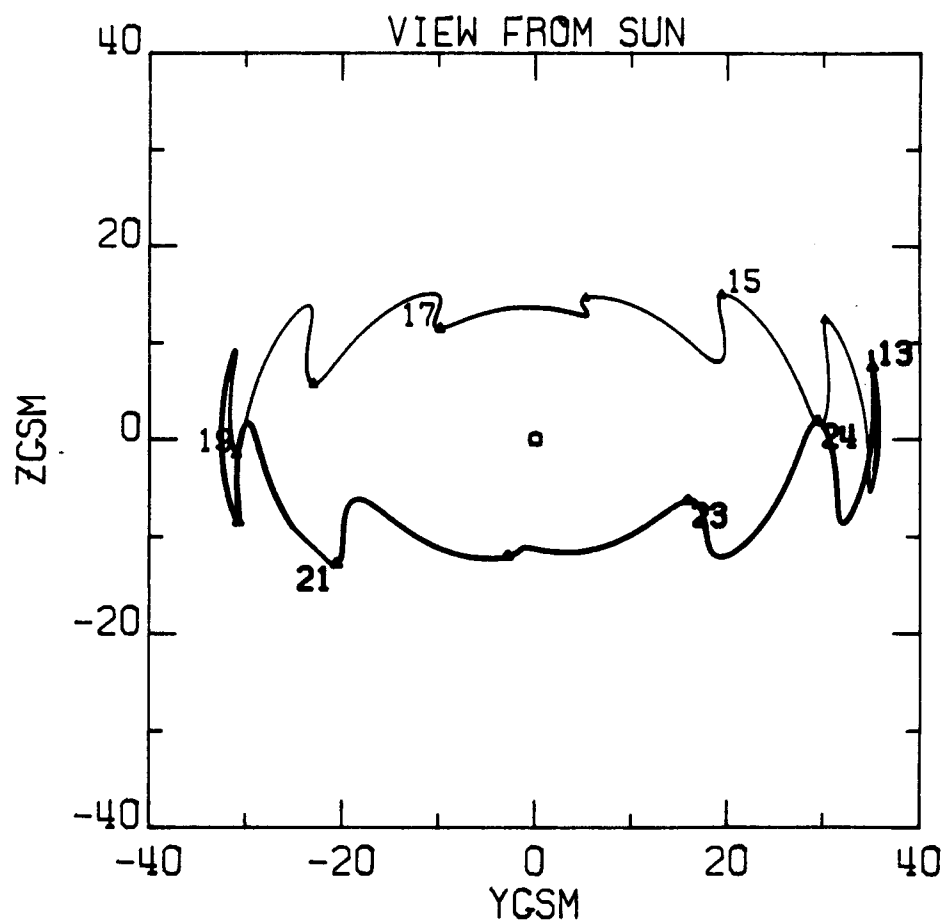
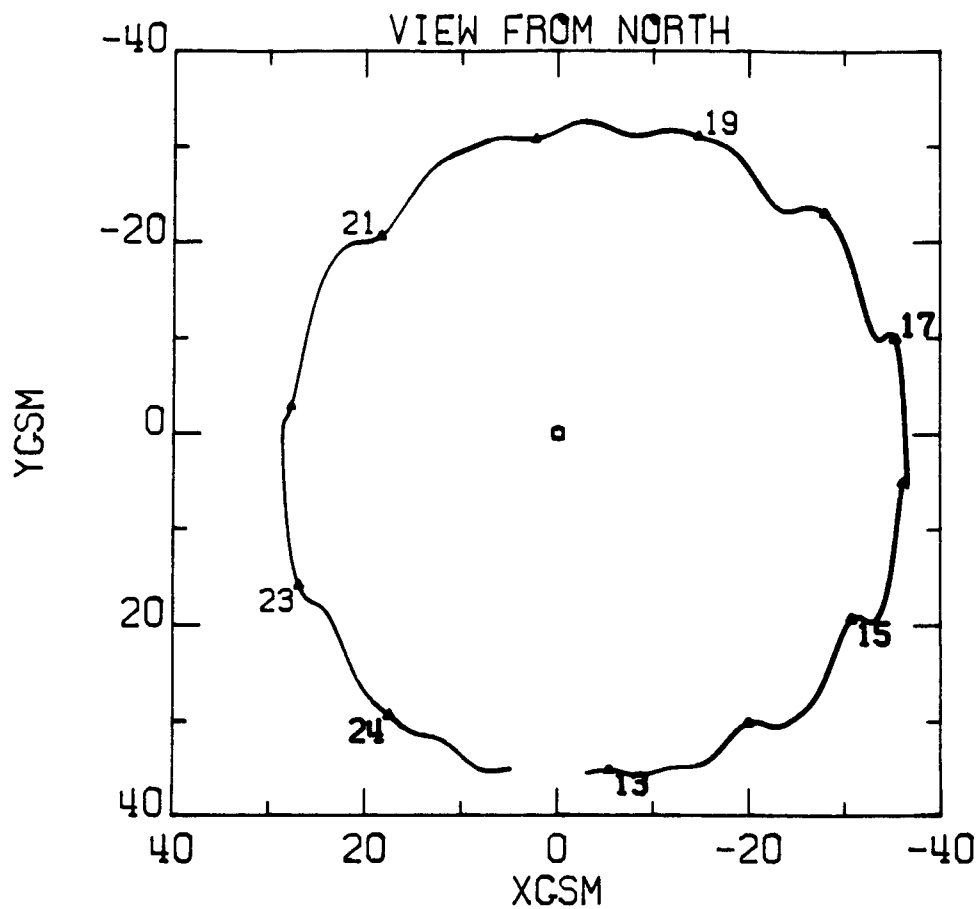
IMP 7 TRAJECTORY. ASCENDING NODE 159

FROM DEC 31 TO JAN 12 1978

DAYS 365 THRU 12



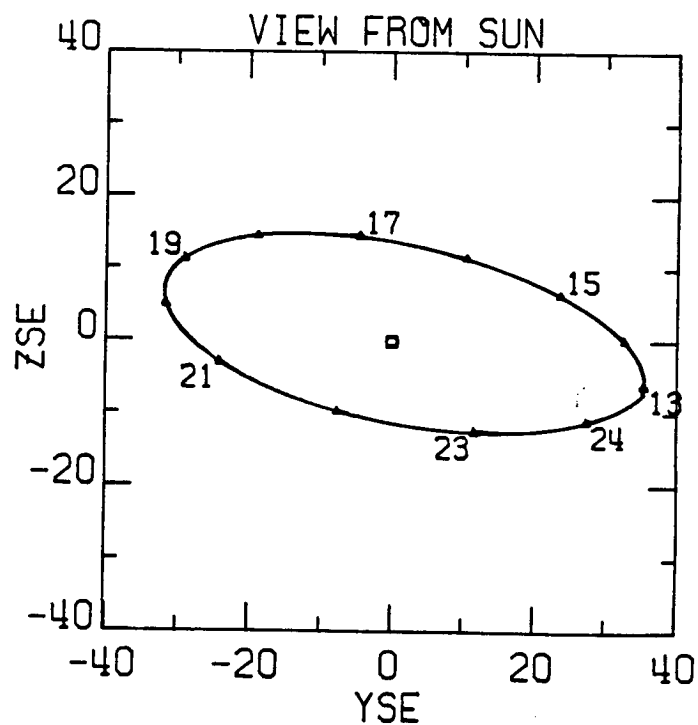
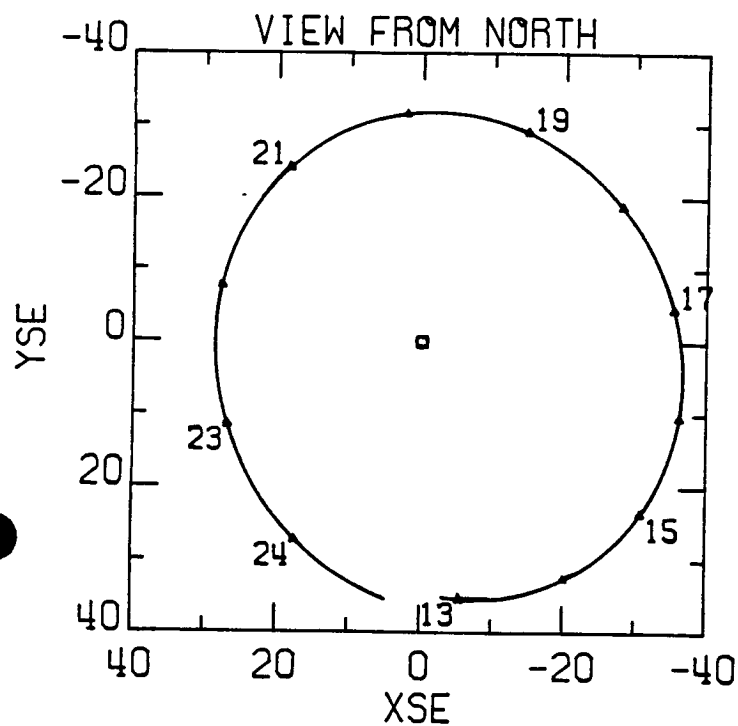
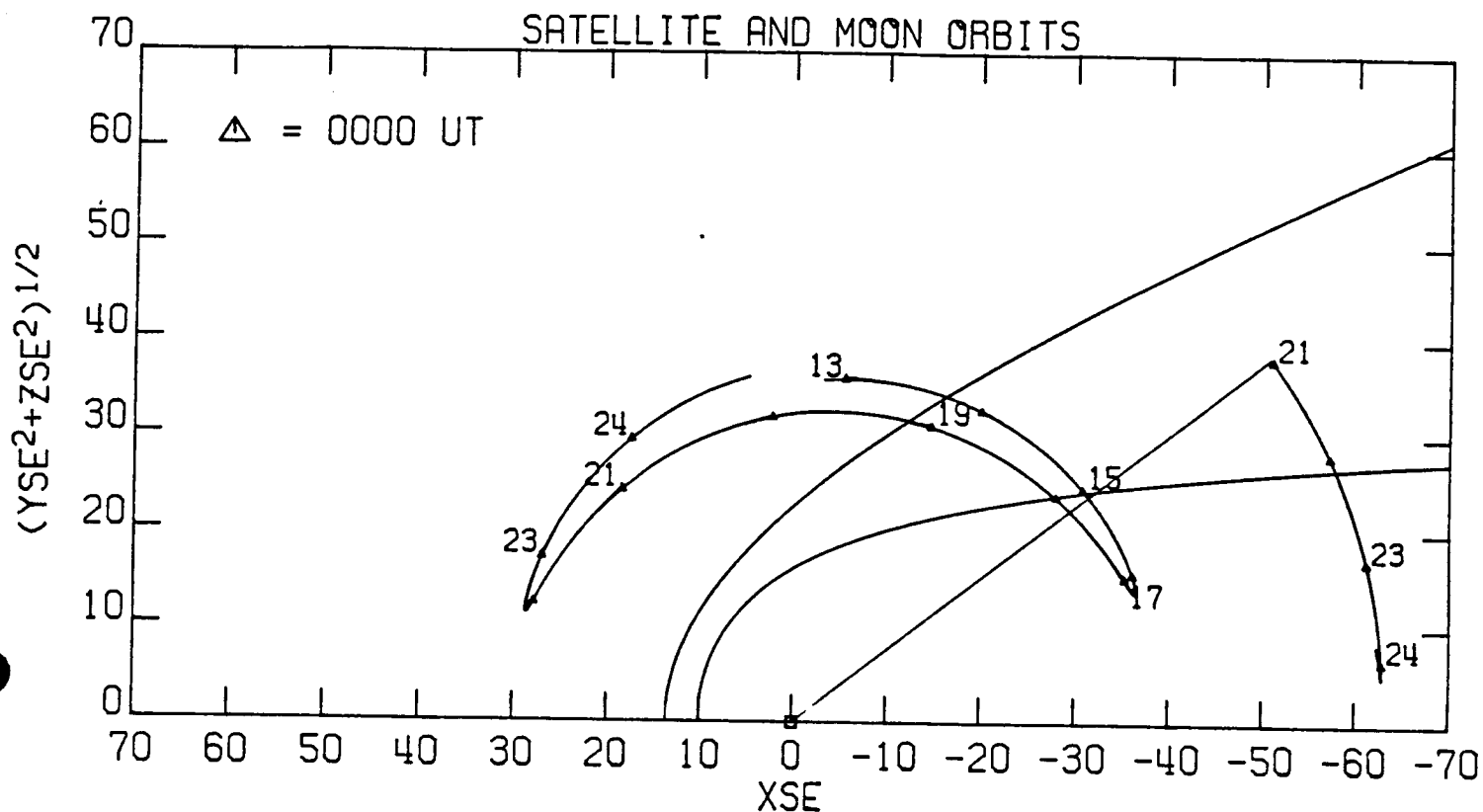
IMP 7 FROM JAN 12 TO JAN 24 1978



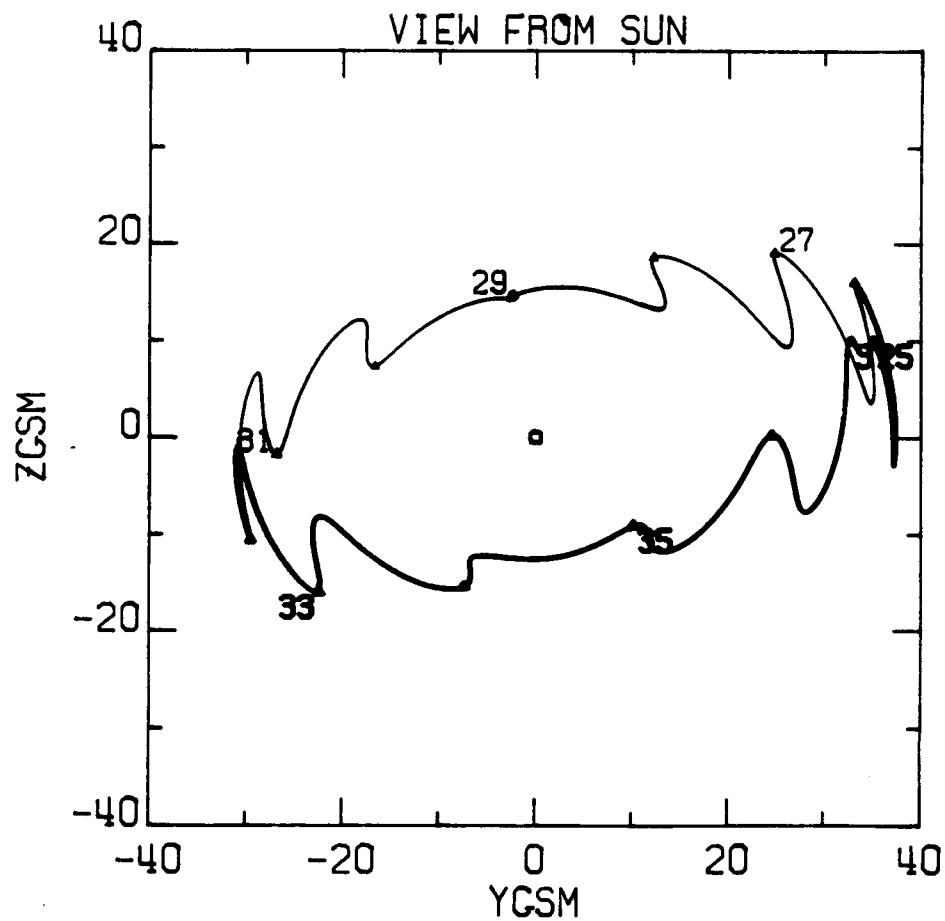
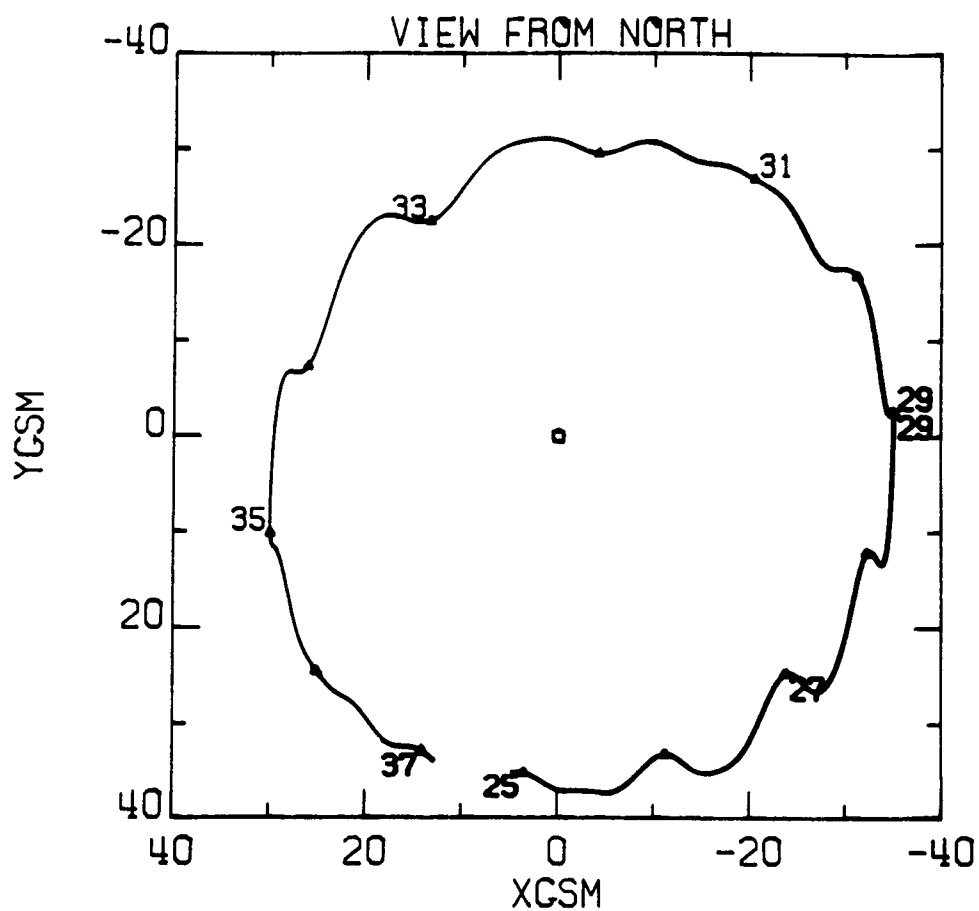
IMP 7 TRAJECTORY. ASCENDING NODE 160

FROM JAN 12 TO JAN 24 1978

DAYS 12 THRU 24



IMP 7 FROM JAN 24 TO FEB 6 1978

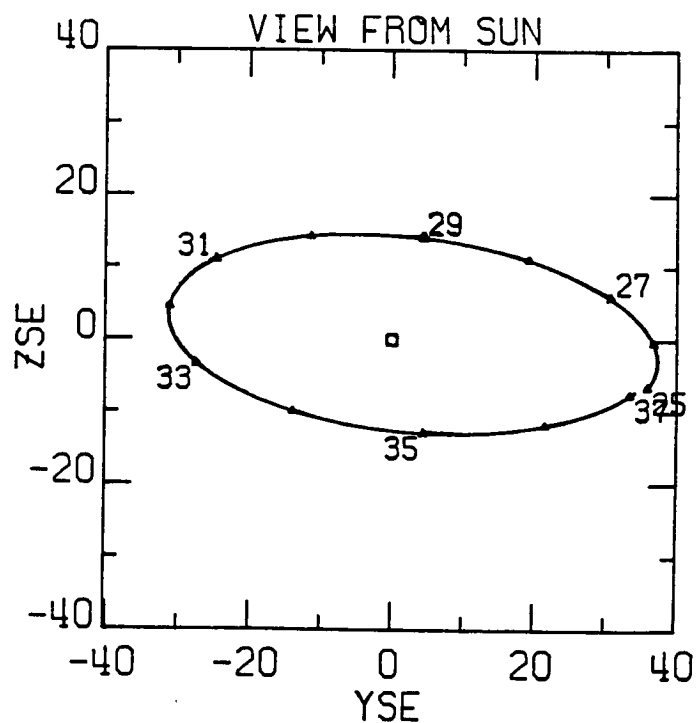
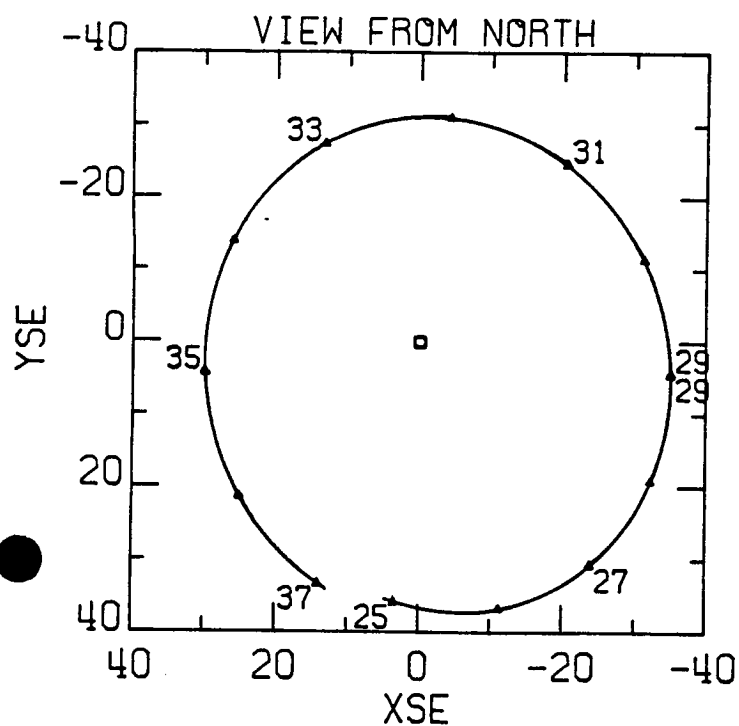
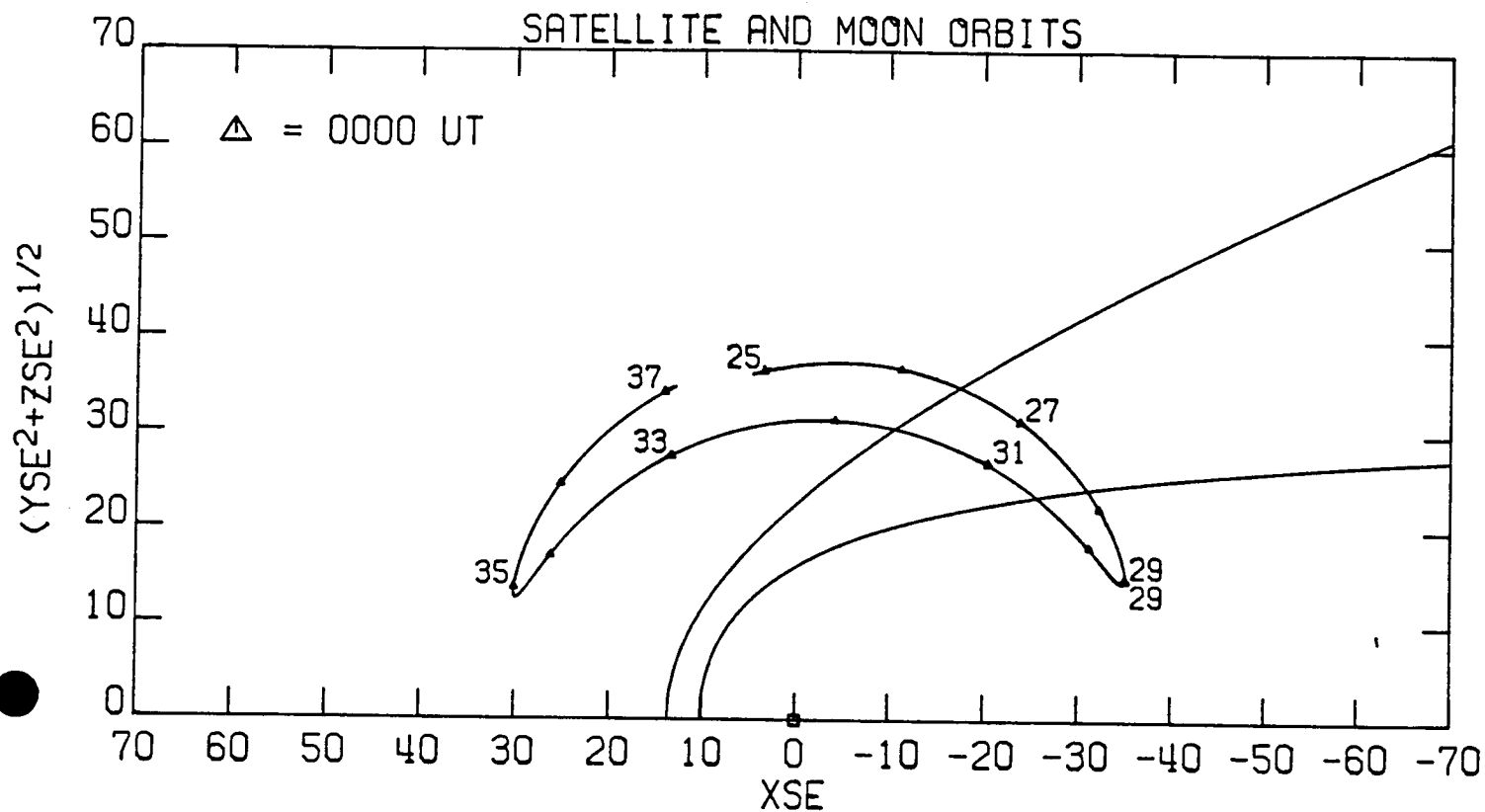


IMP 7 TRAJECTORY.

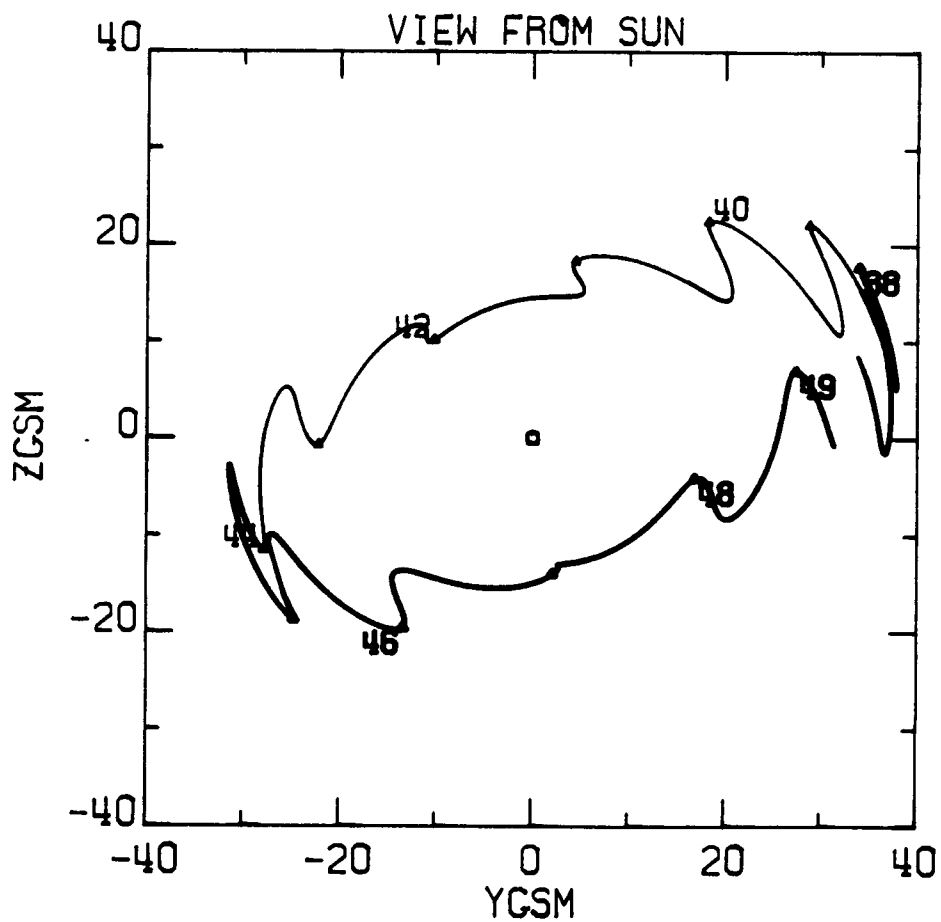
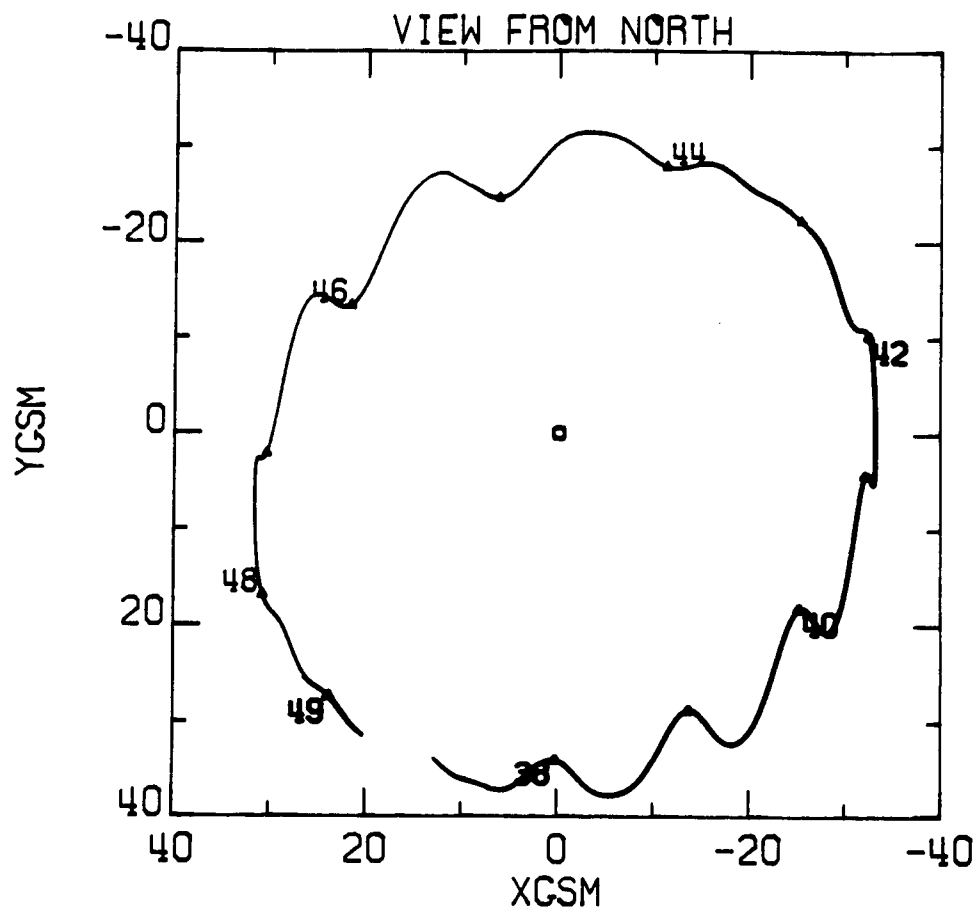
ASCENDING NODE 161

FROM JAN 24 TO FEB 6 1978

DAYS 24 THRU 37



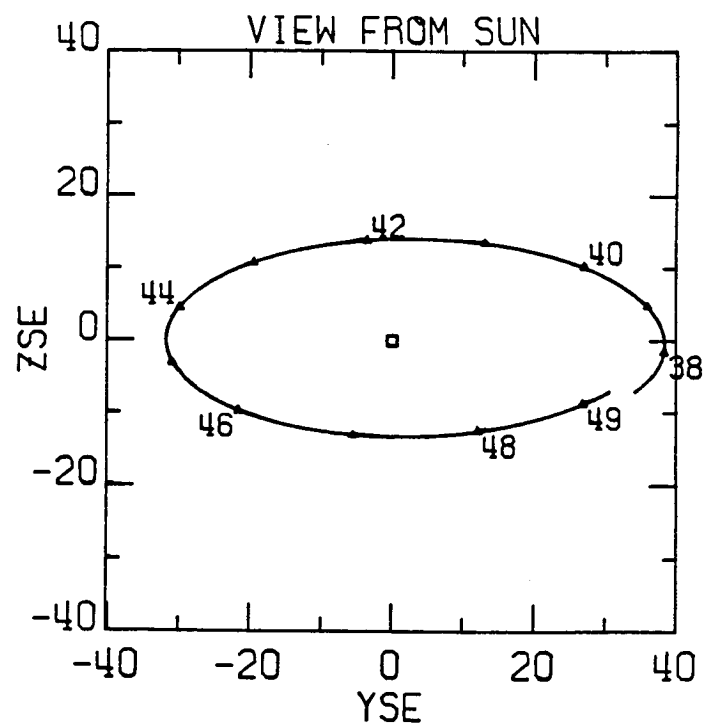
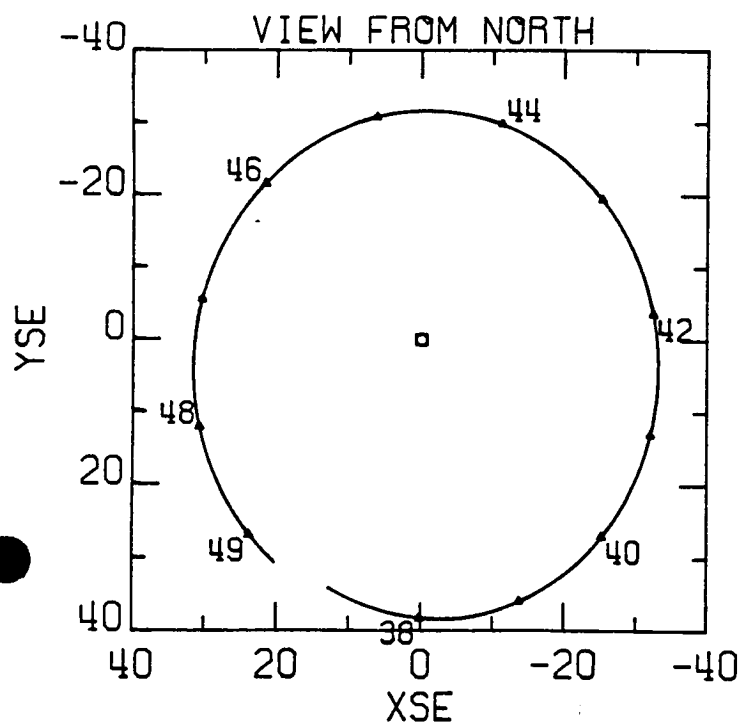
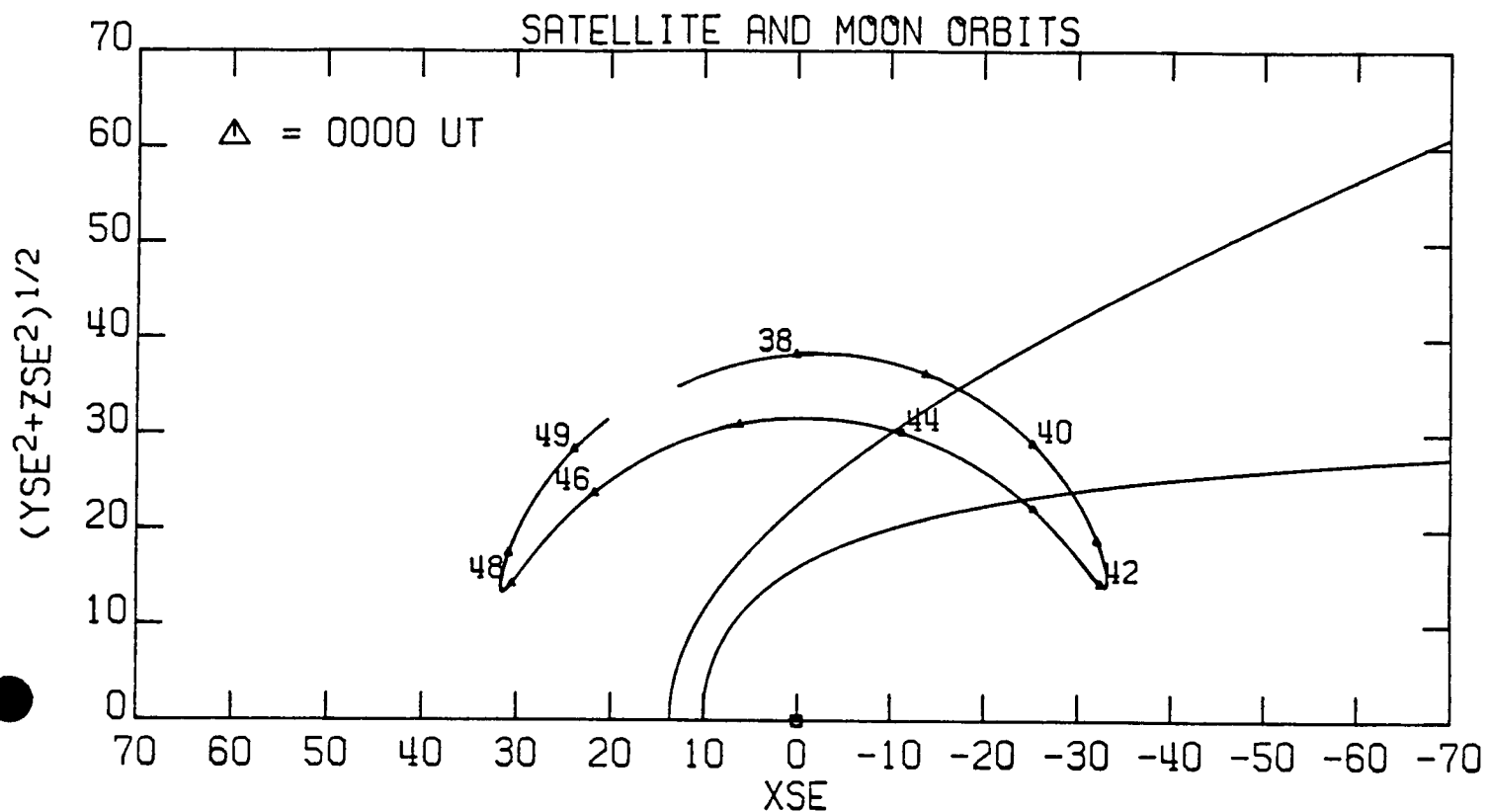
IMP 7 FROM FEB 6 TO FEB 18 1978



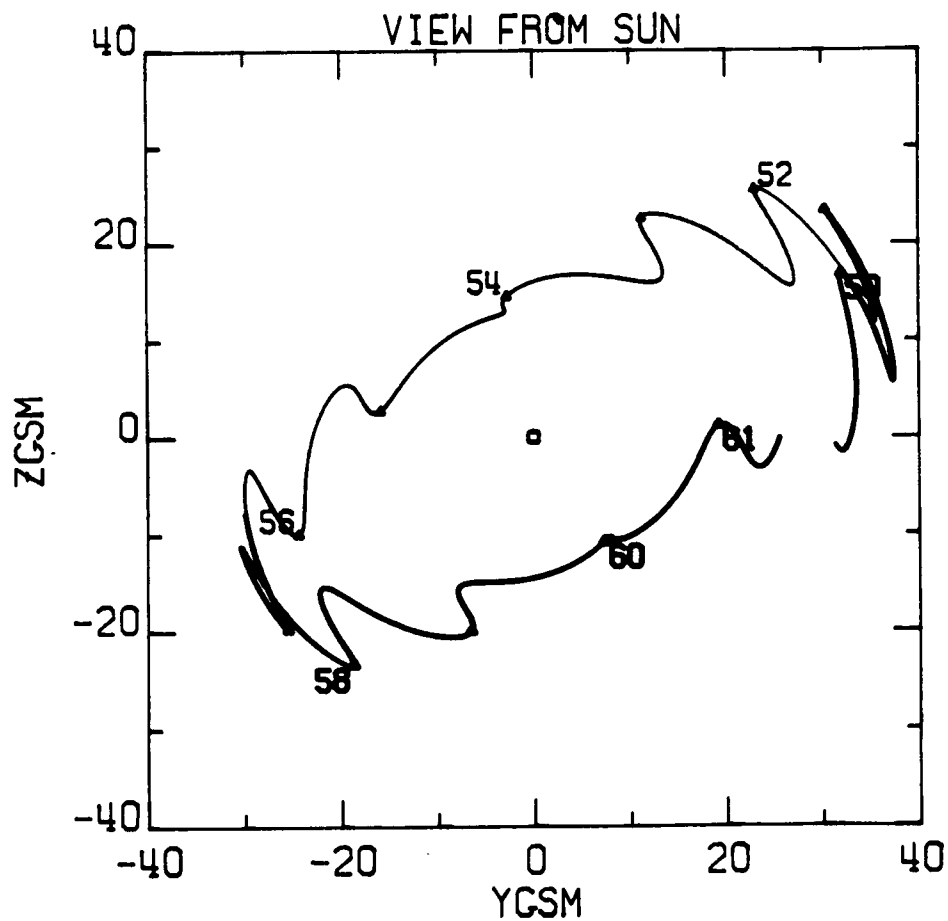
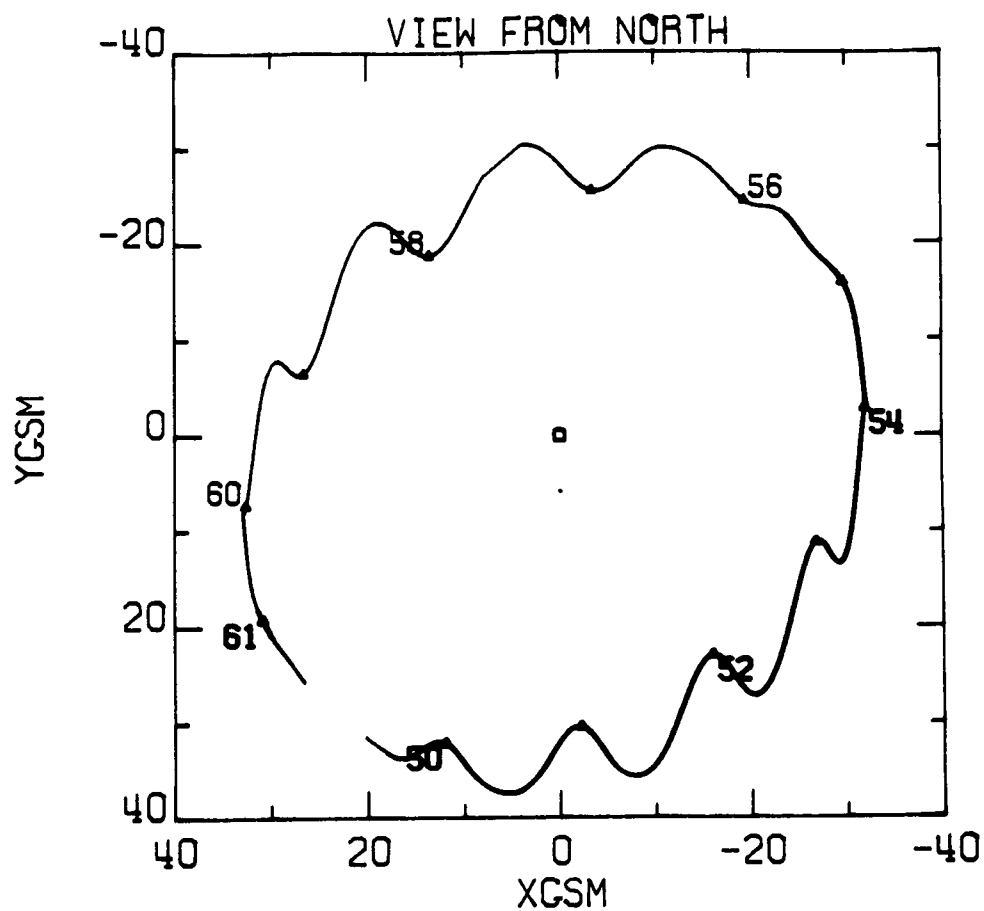
IMP 7 TRAJECTORY. ASCENDING NODE 162

FROM FEB 6 TO FEB 18 1978

DAYS 37 THRU 49



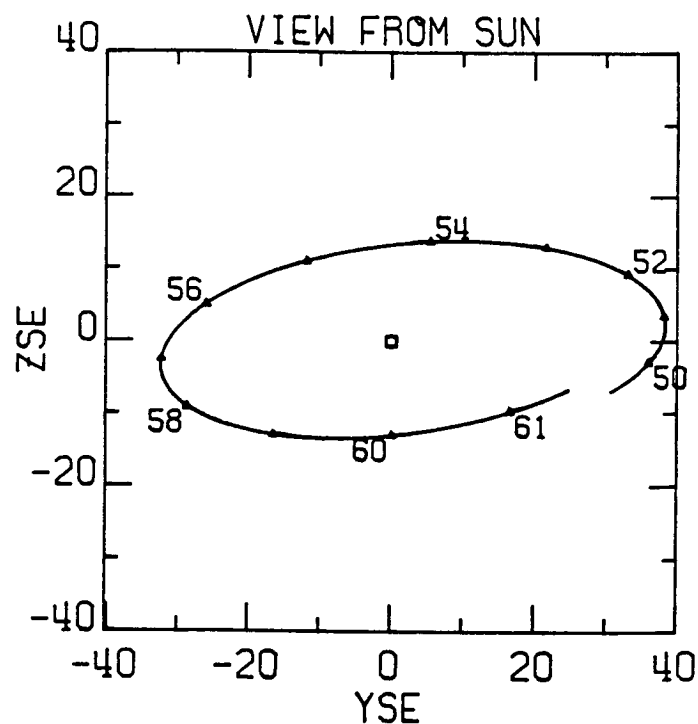
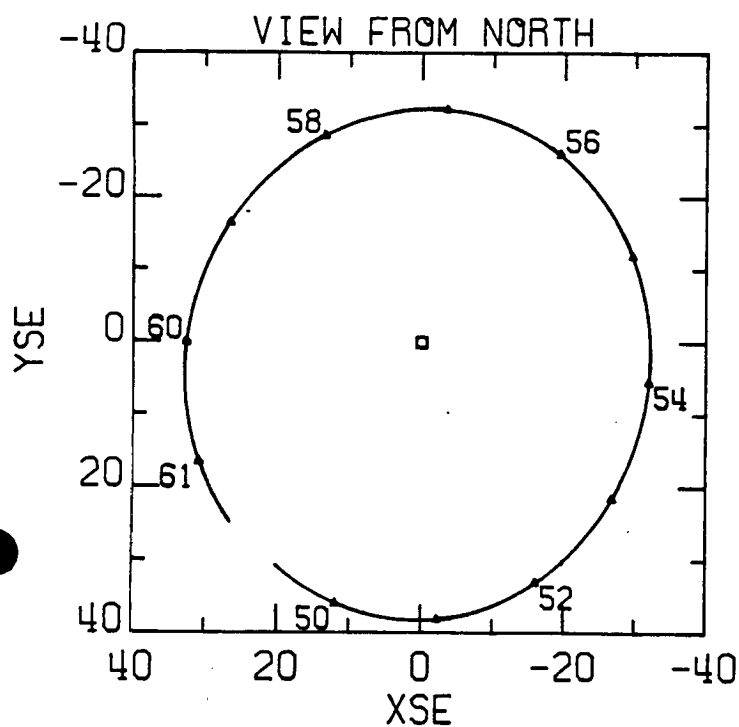
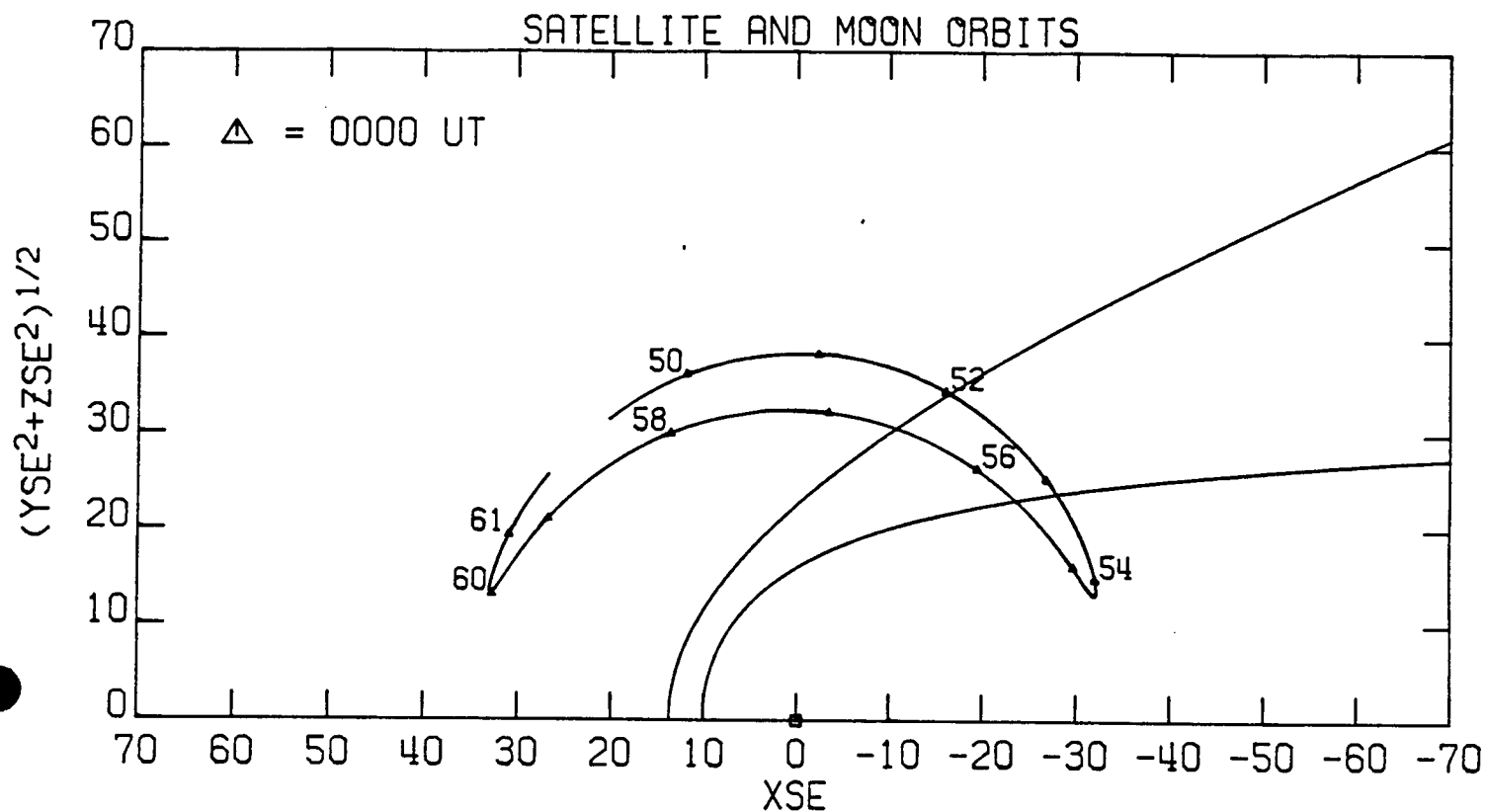
IMP 7 FROM FEB 18 TO MAR 2 1978



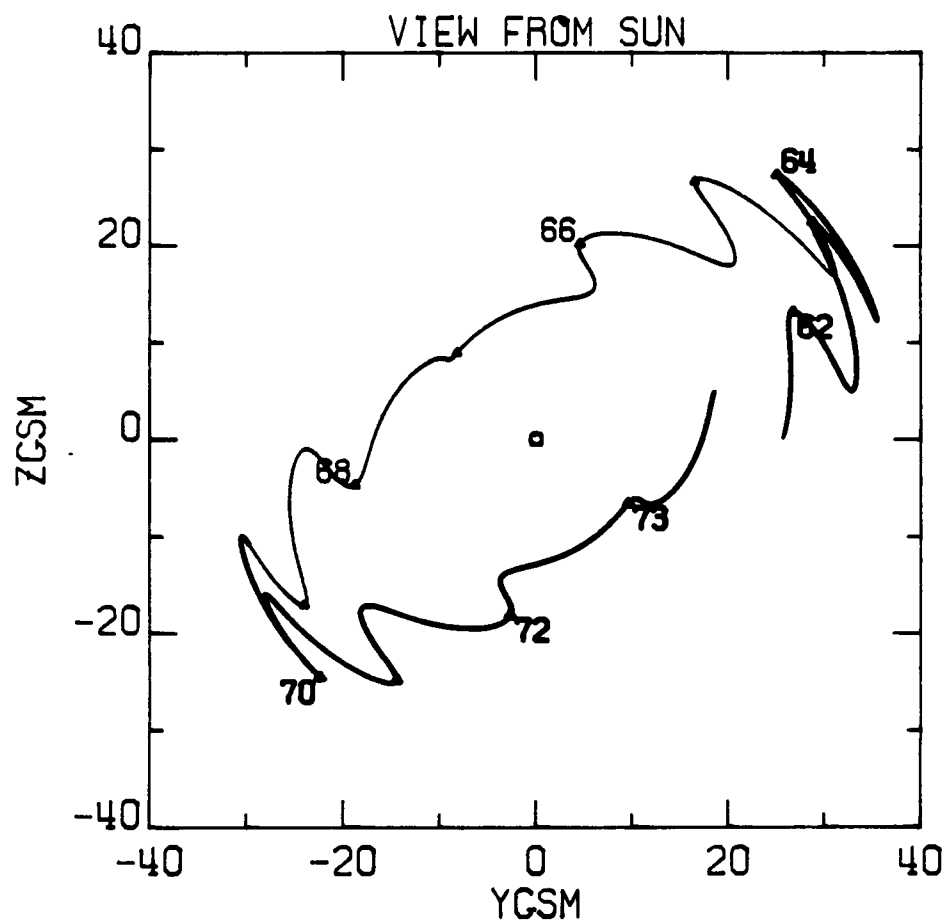
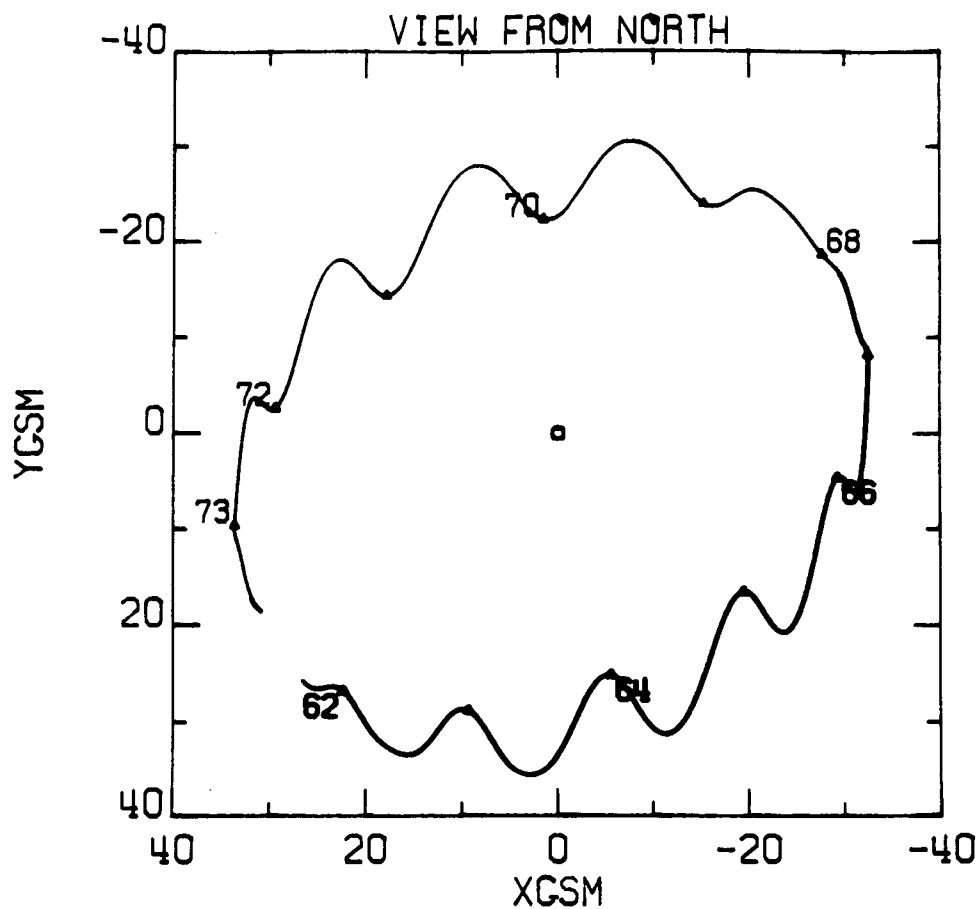
IMP 7 TRAJECTORY. ASCENDING NODE 163

FROM FEB 18 TO MAR 2 1978

DAYS 49 THRU 61



IMP 7 FROM MAR 2 TO MAR 14 1978



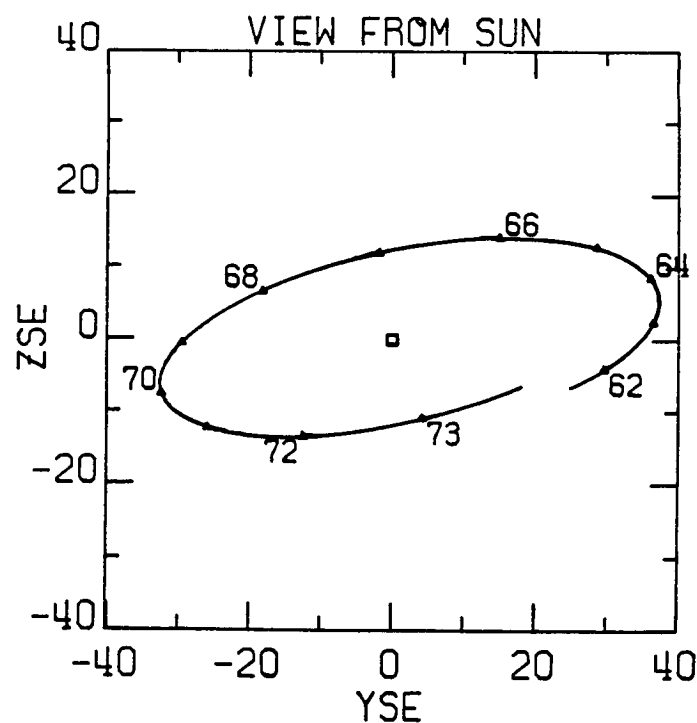
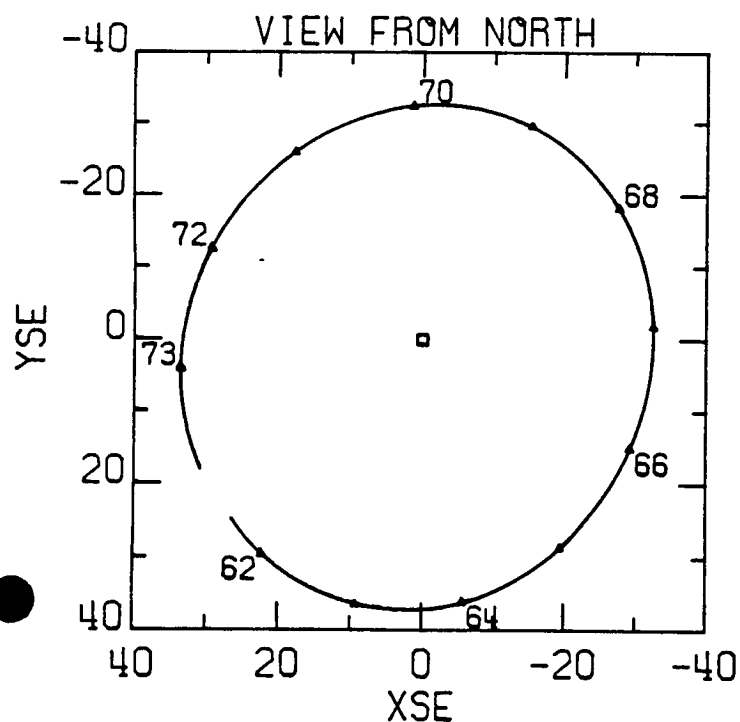
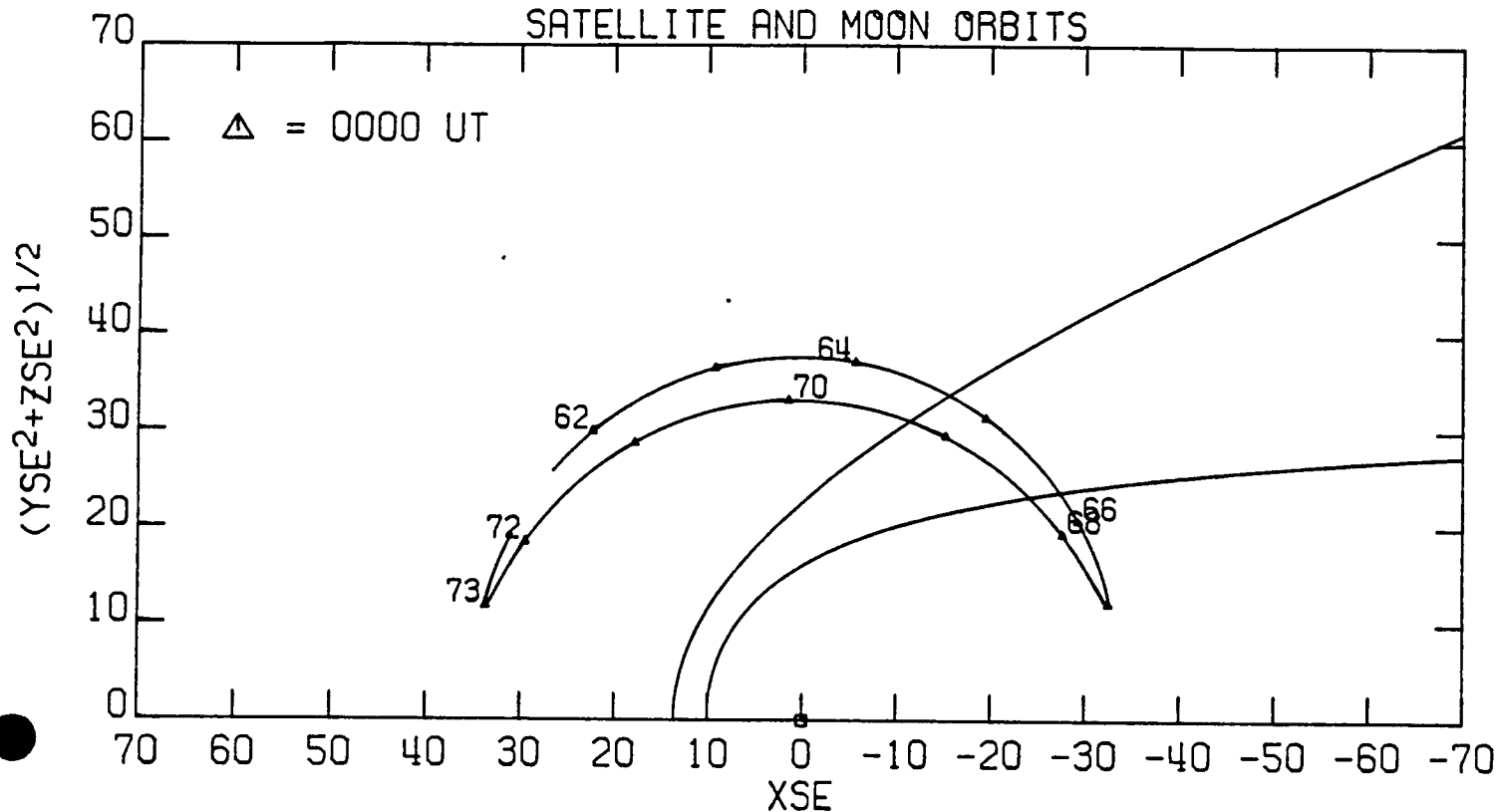
IMP 7 TRAJECTORY.

ASCENDING NODE 164

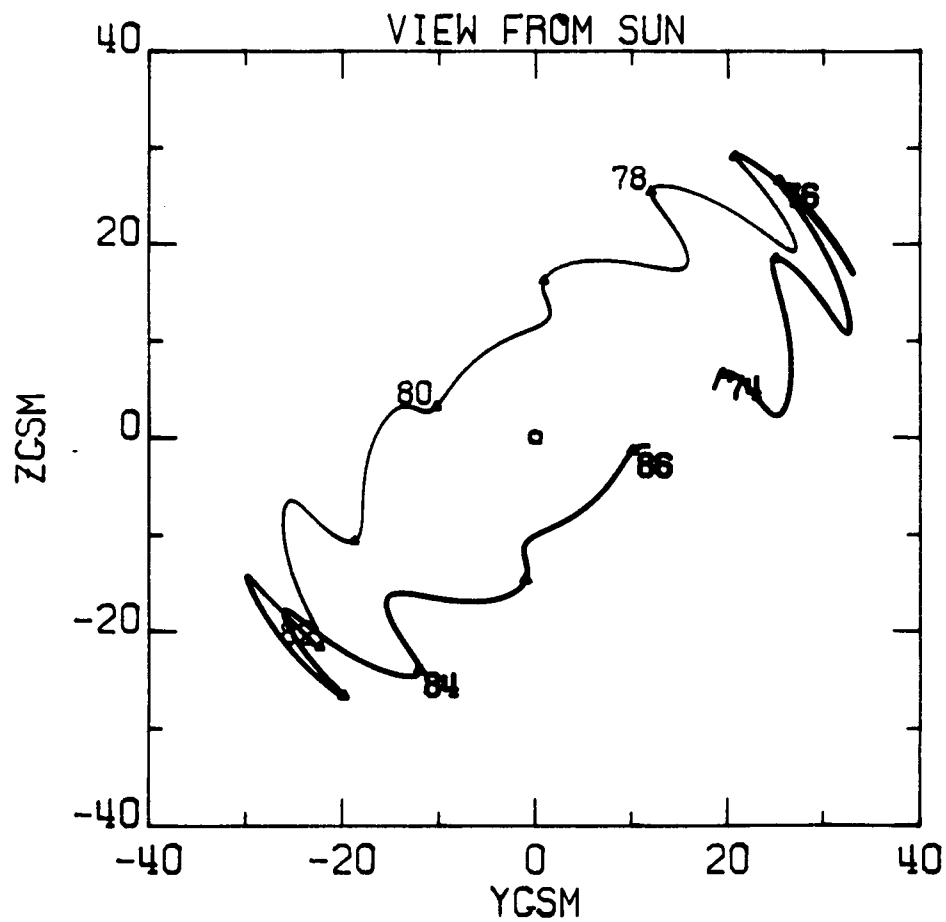
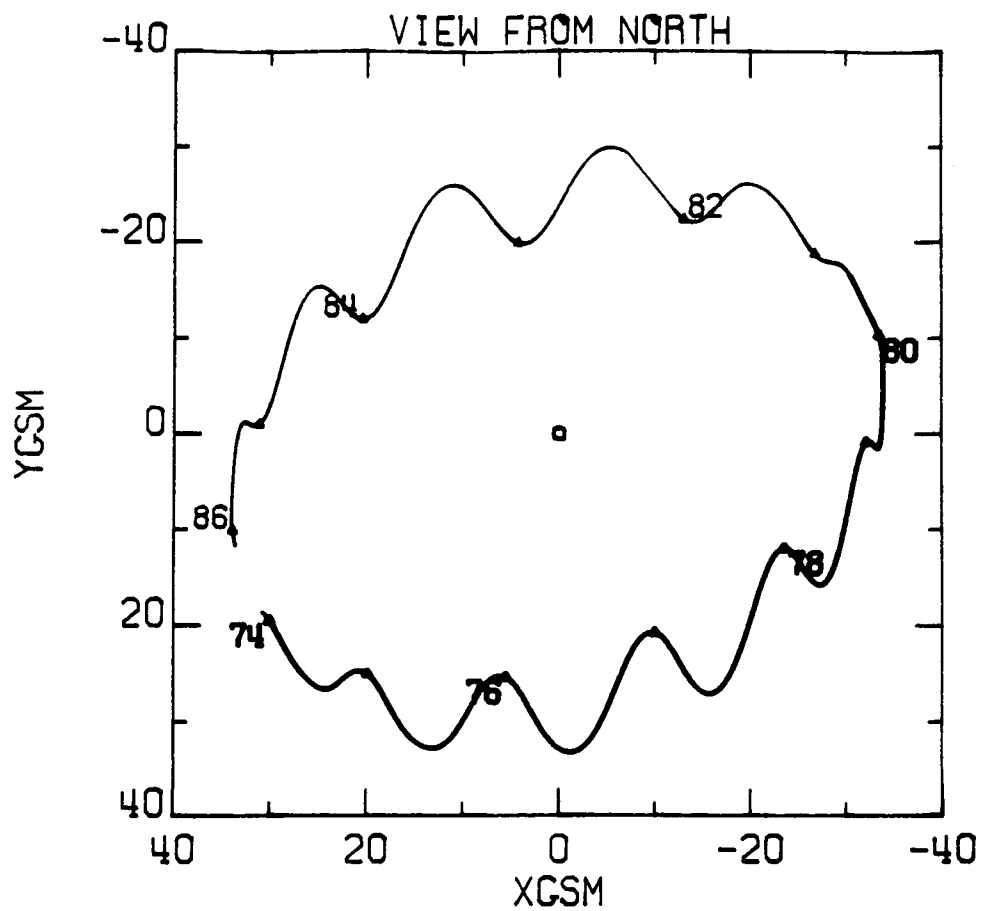
FROM MAR 2 TO MAR 14 1978

DAYS 61 THRU 73

SATELLITE AND MOON ORBITS



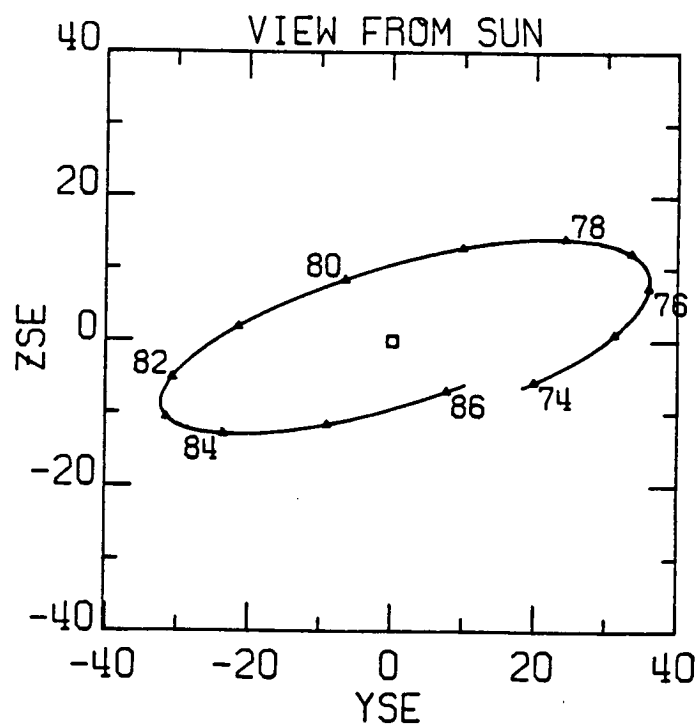
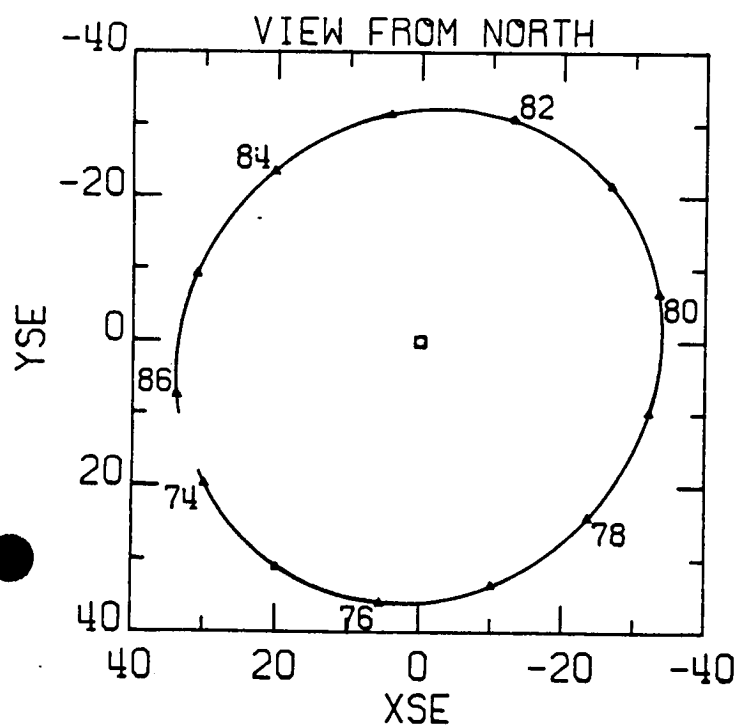
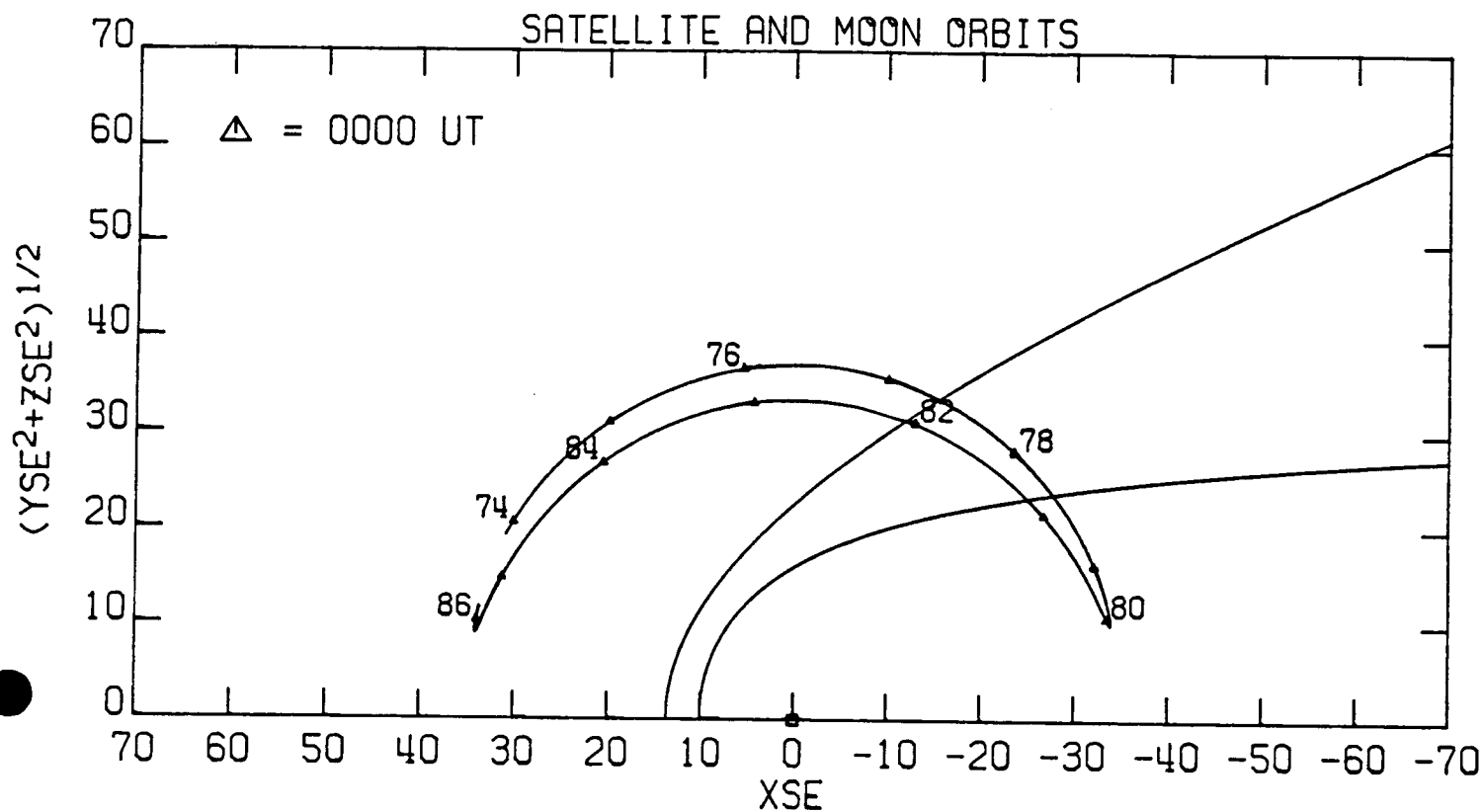
IMP 7 FROM MAR 14 TO MAR 27 1978



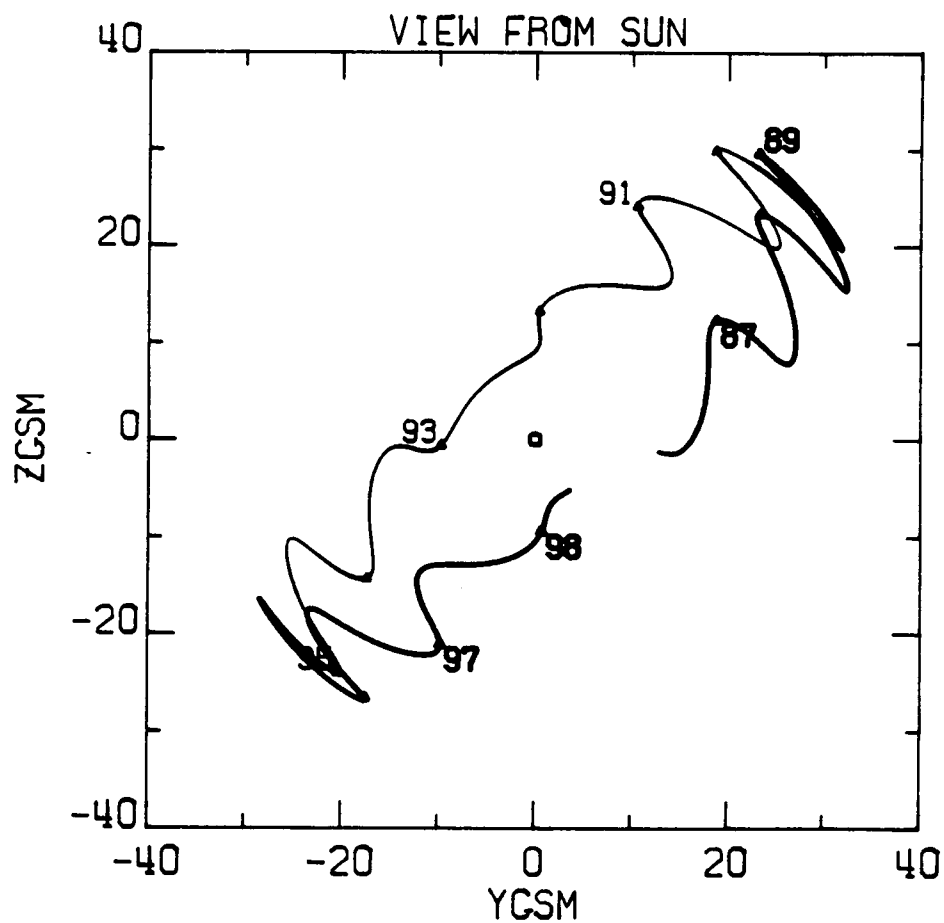
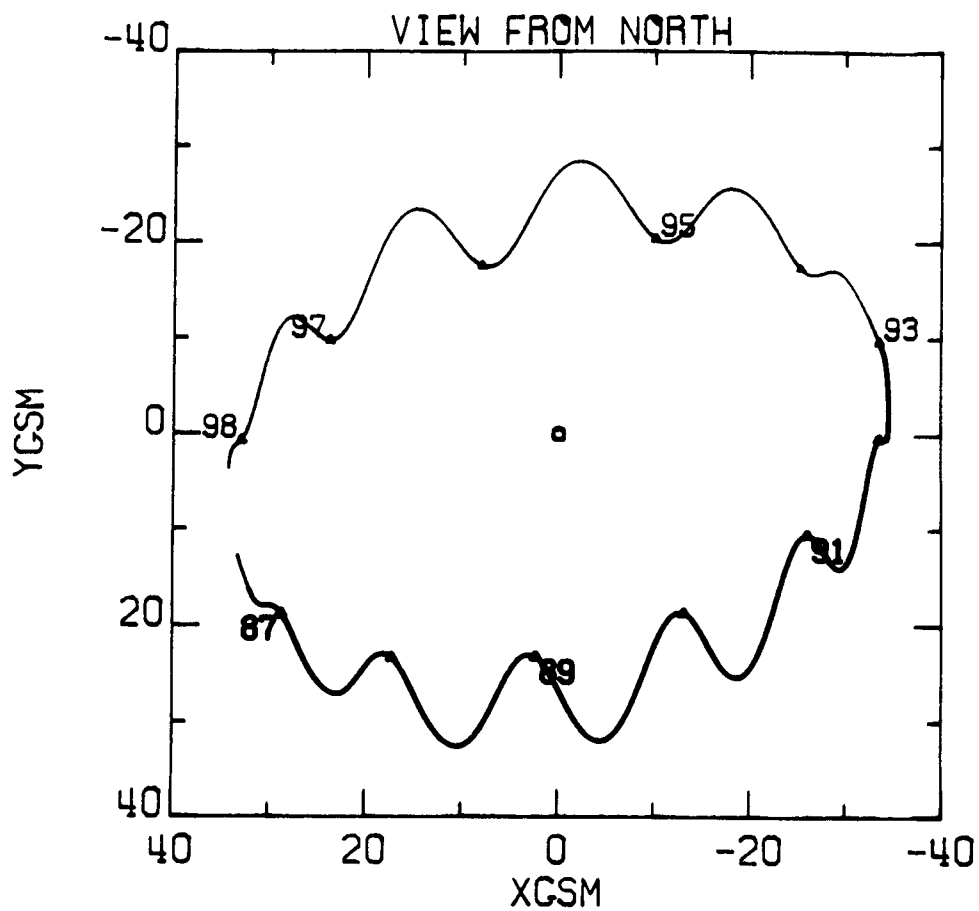
IMP 7 TRAJECTORY. ASCENDING NODE 165

FROM MAR 14 TO MAR 27 1978

DAYS 73 THRU 86



IMP 7 FROM MAR 27 TO APR 8 1978

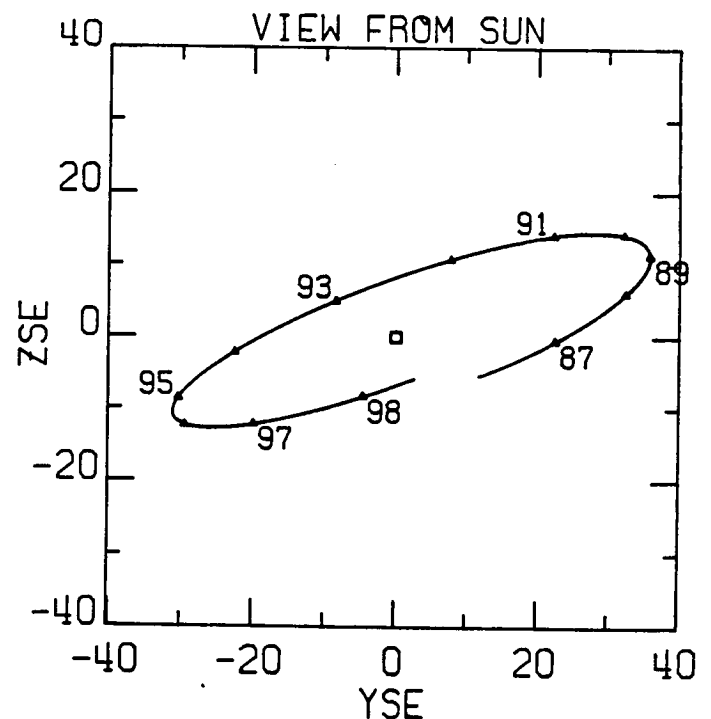
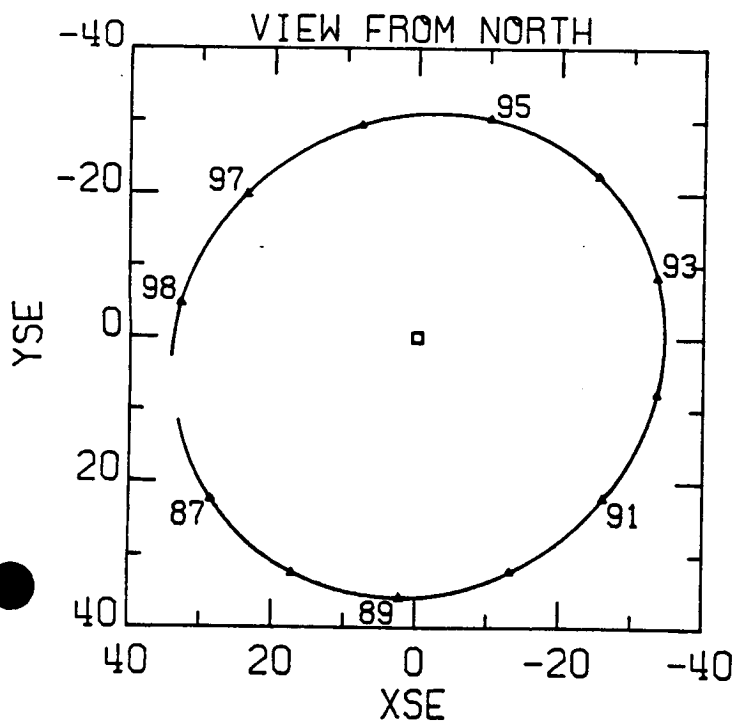
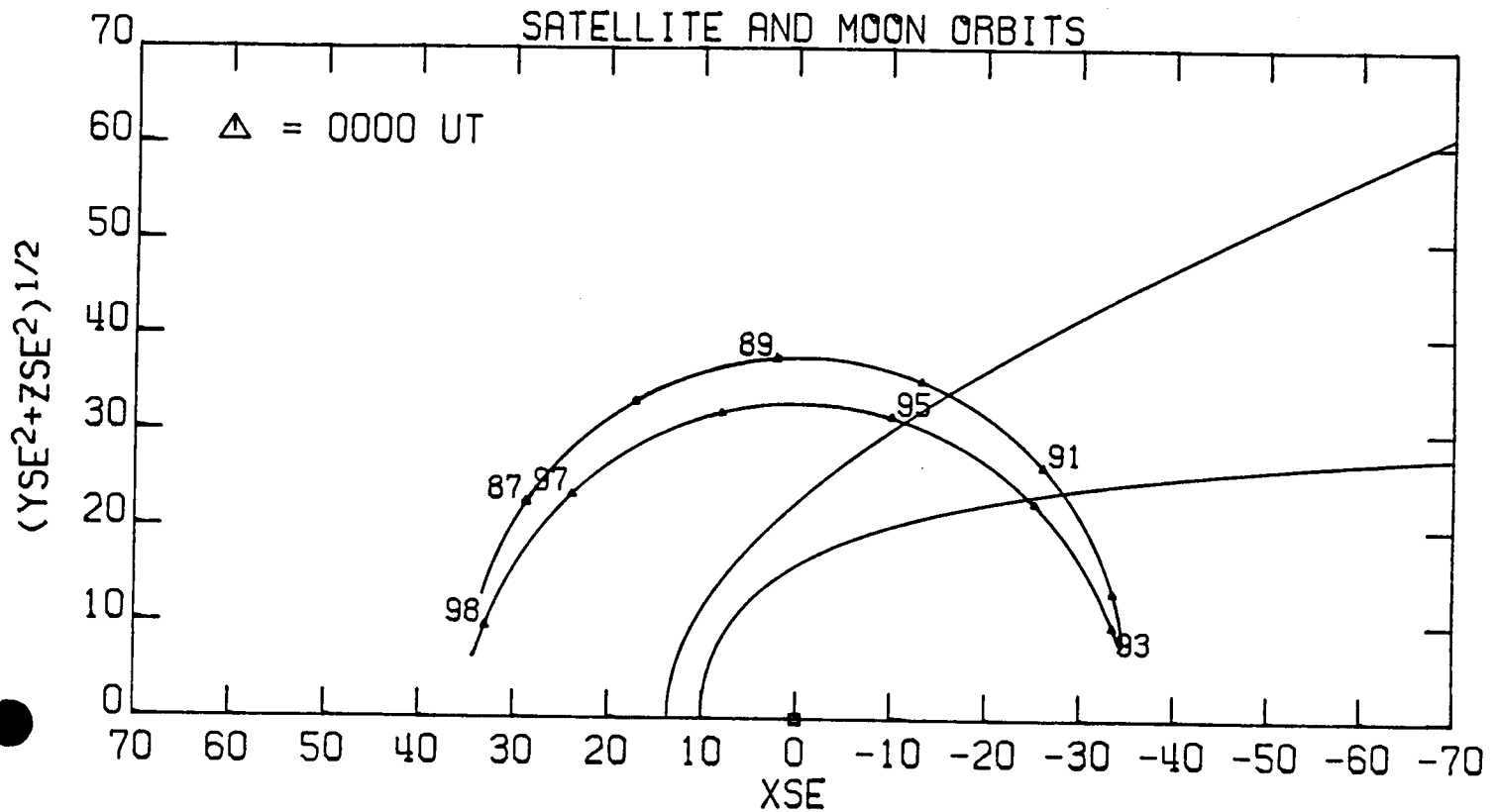


IMP 7 TRAJECTORY.

ASCENDING NODE 166

FROM MAR 27 TO APR 8 1978

DAYS 86 THRU 98

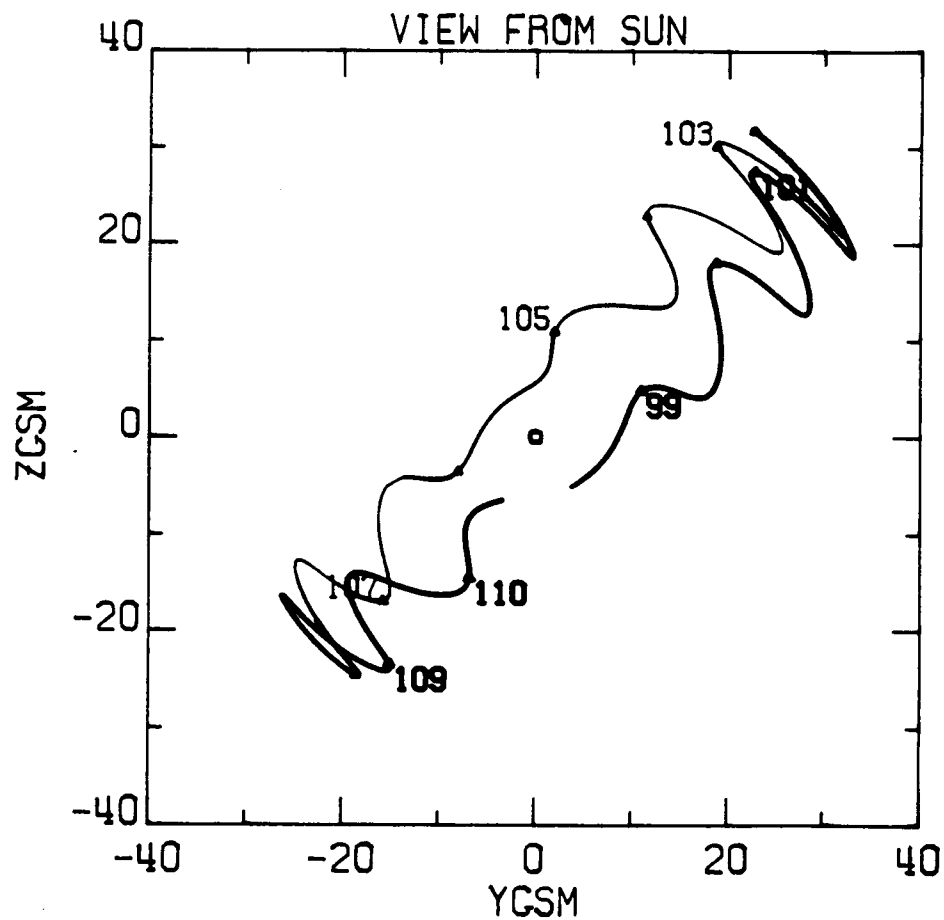
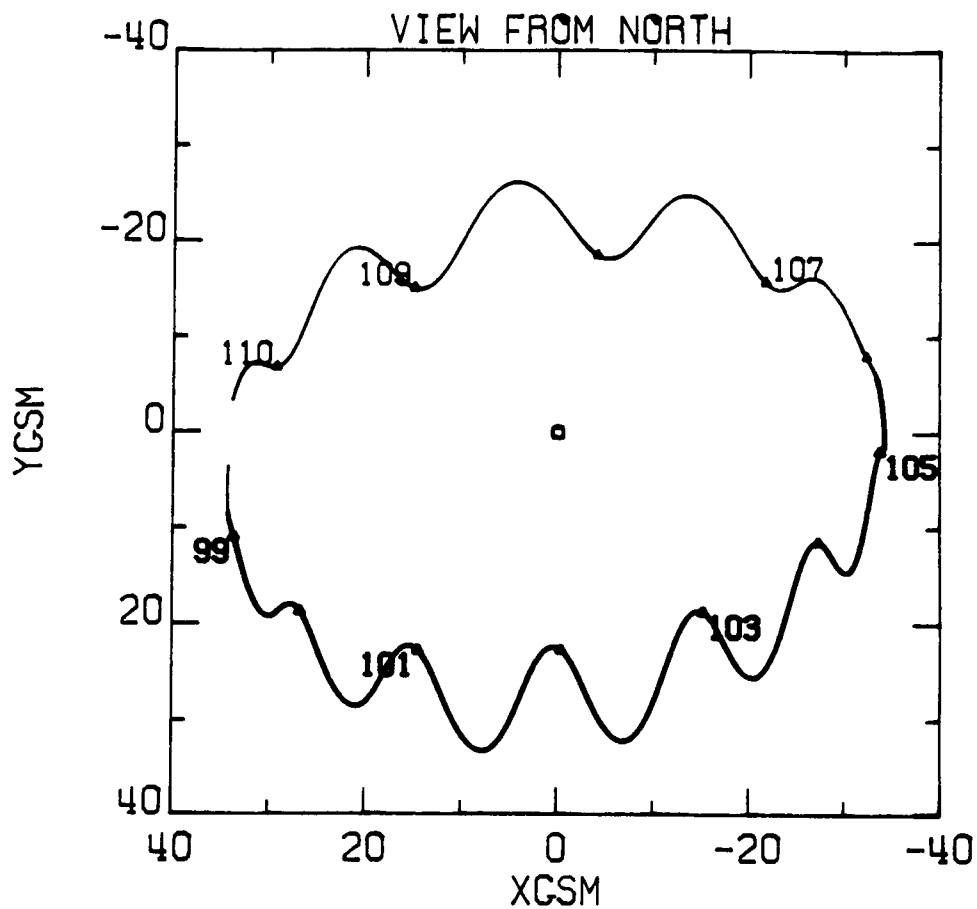


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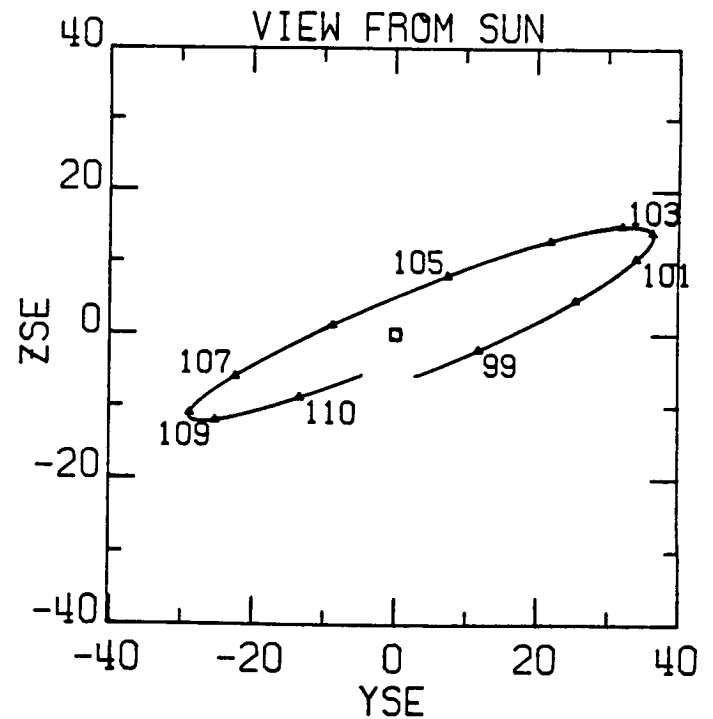
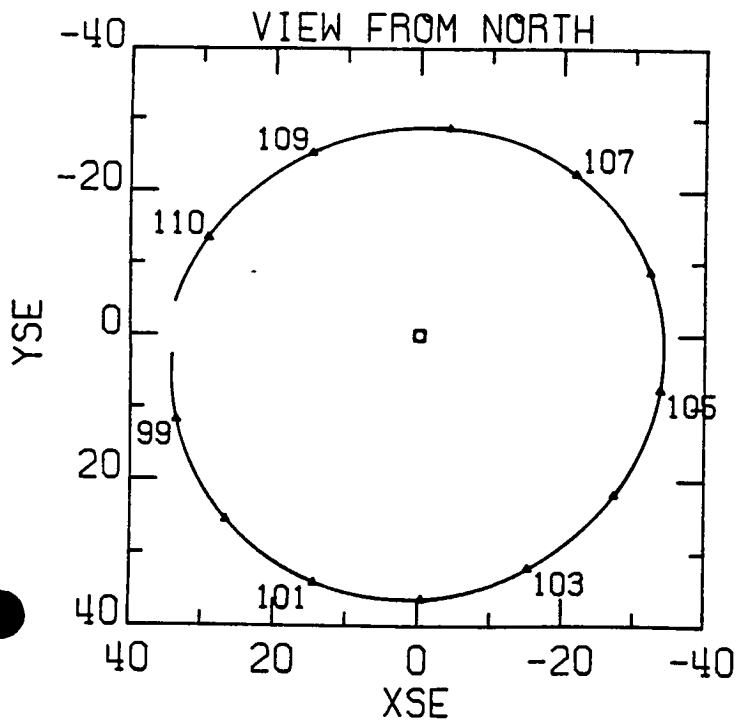
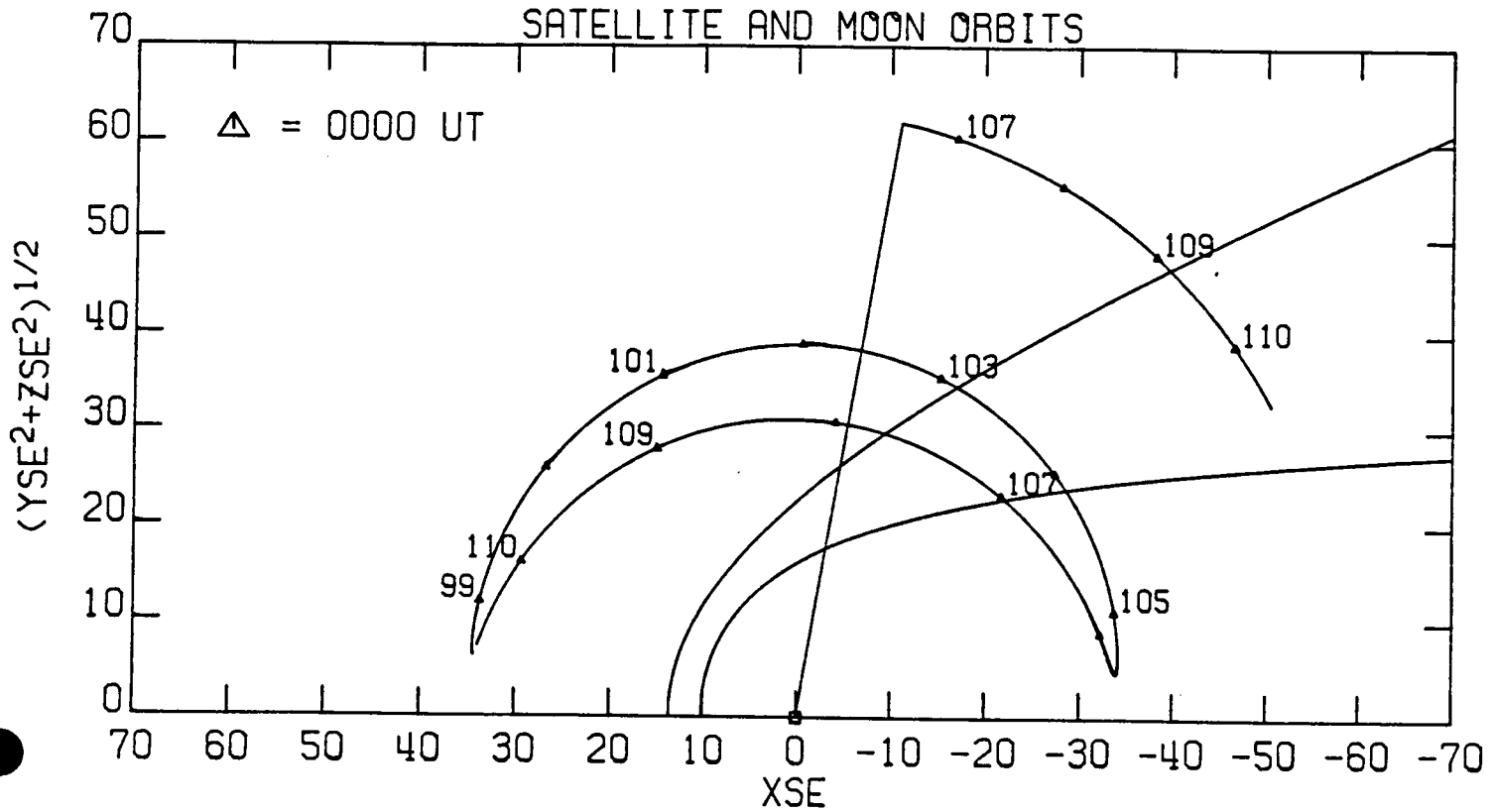
M.I.T. Center for Space Research

IMP 7 FROM APR 8 TO APR 20 1978

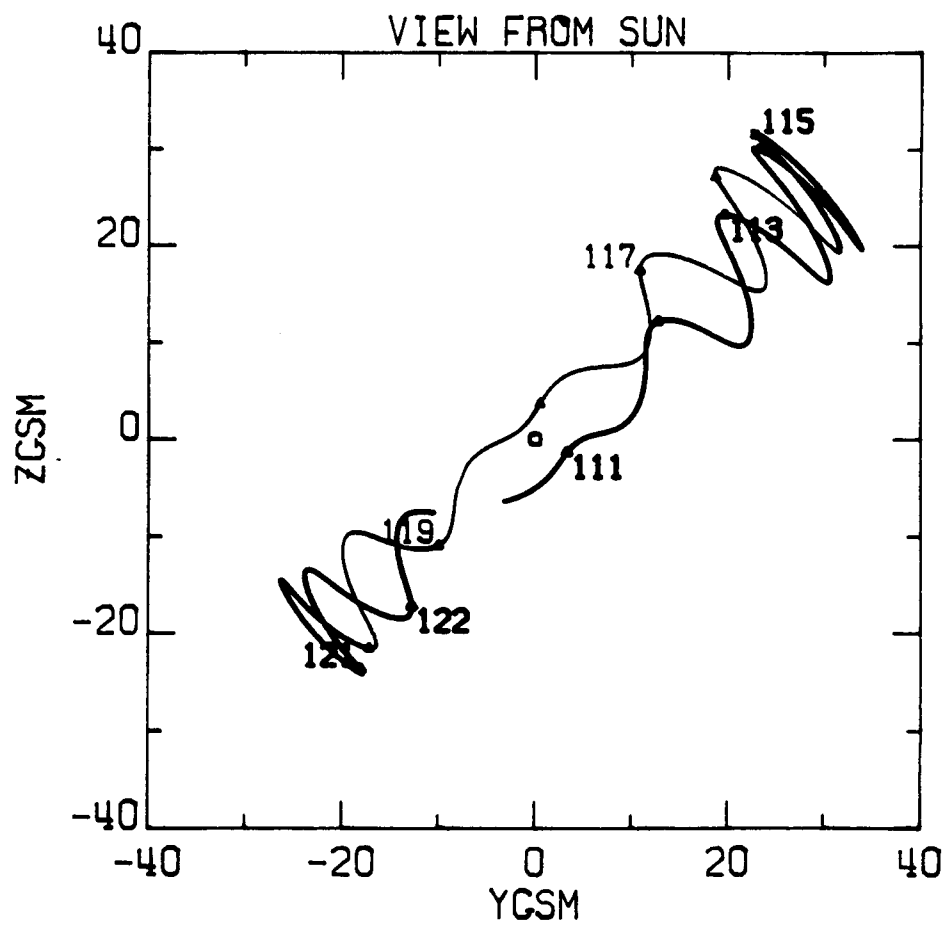
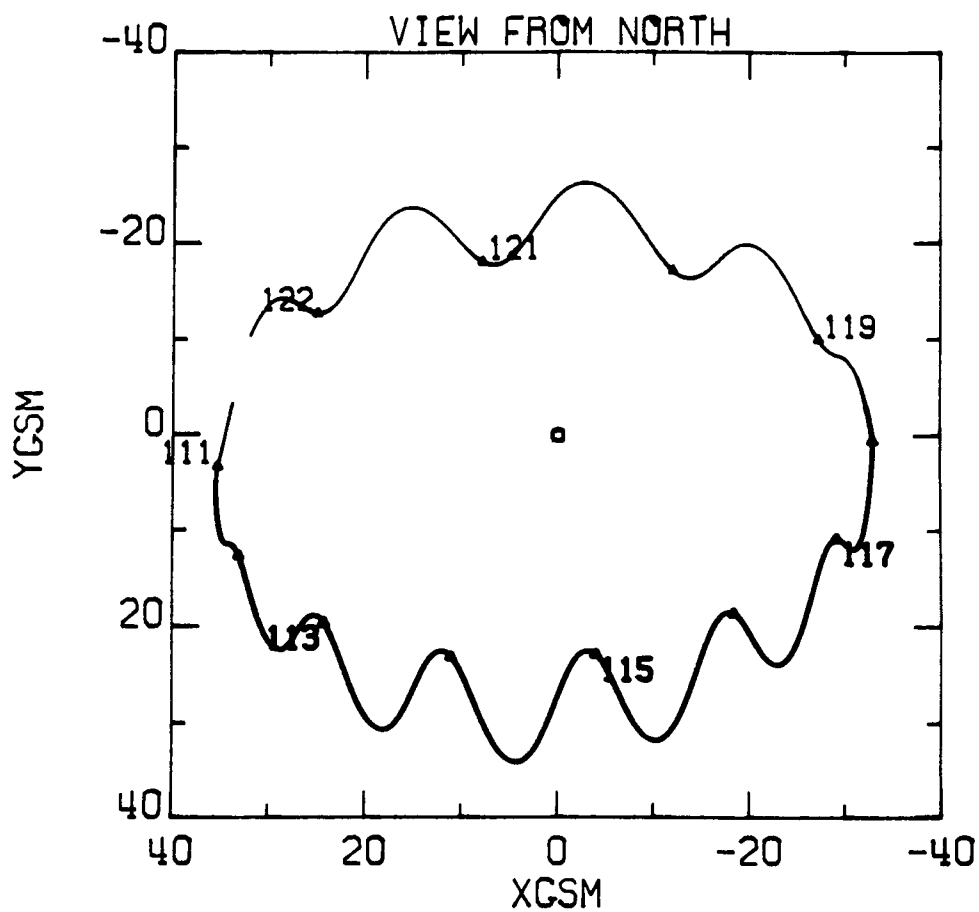


FROM APR 8 TO APR 20 1978

DAYS 98 THRU 110



IMP 7 FROM APR 20 TO MAY 2 1978

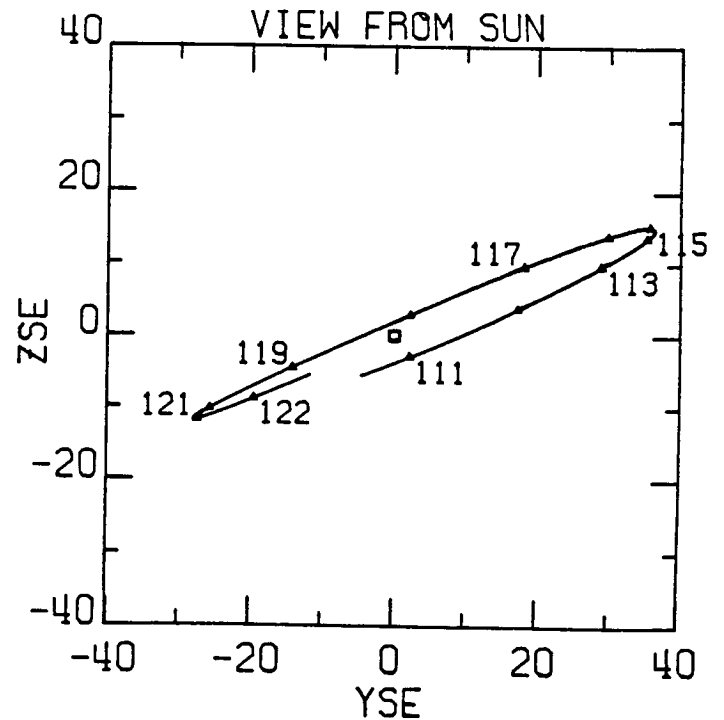
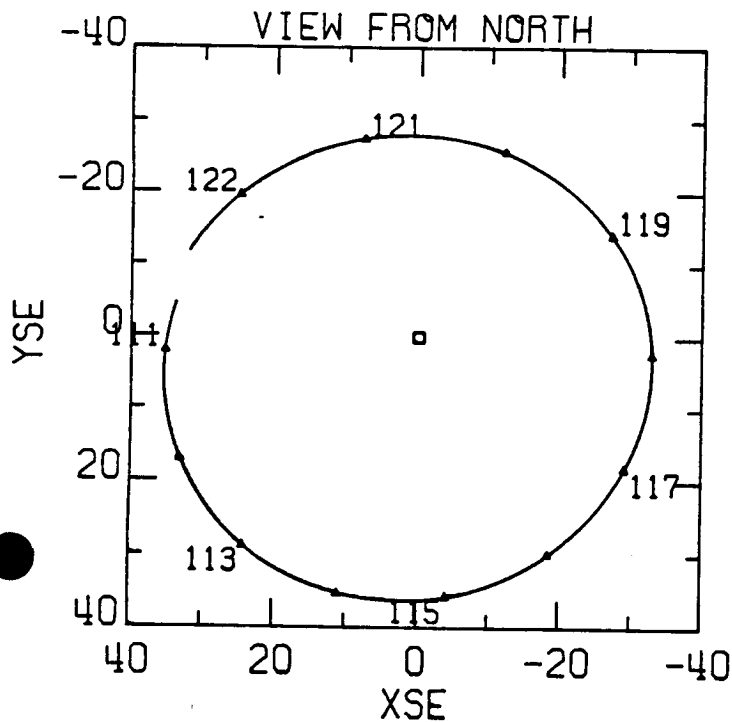
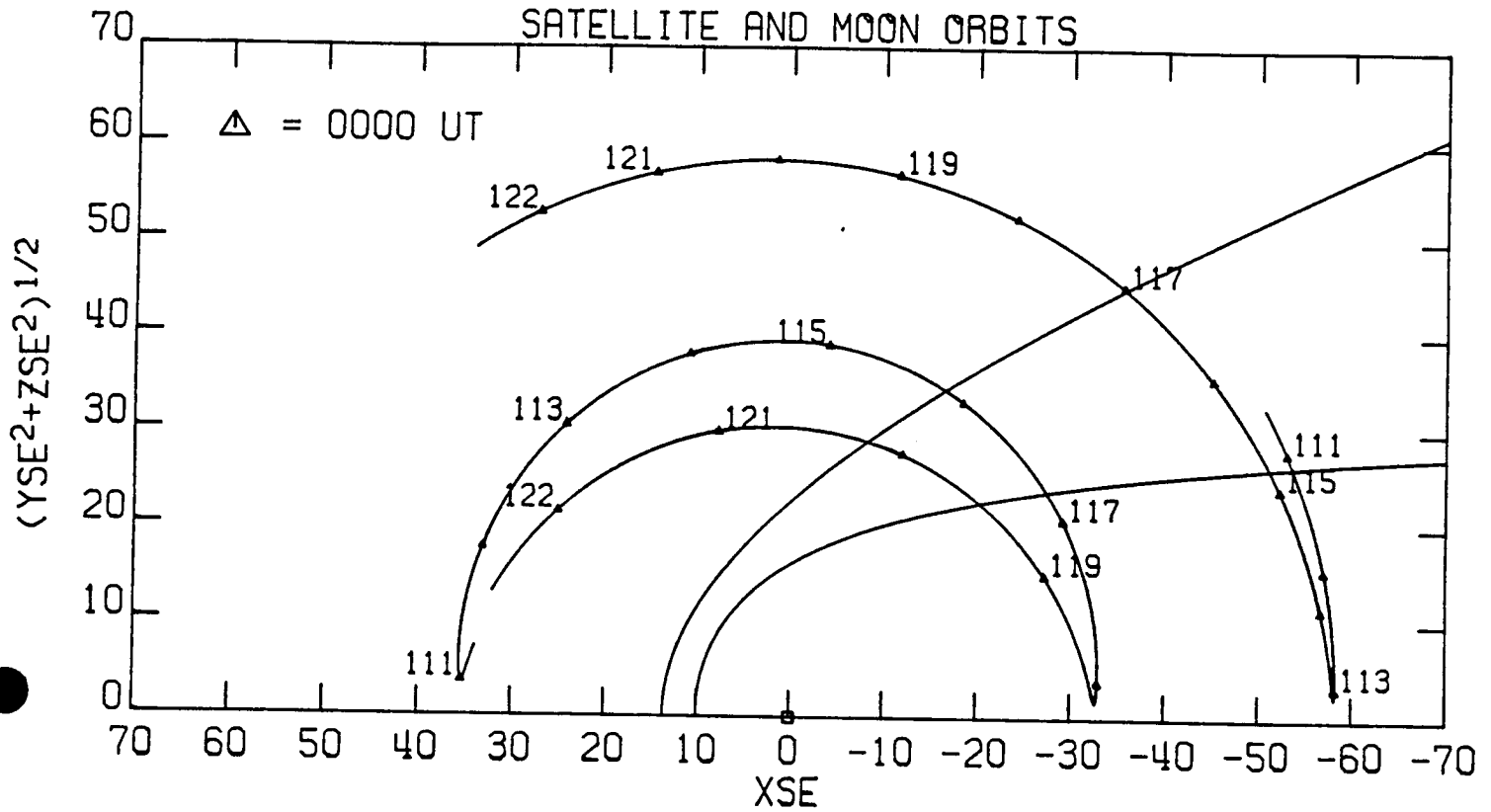


IMP 7 TRAJECTORY.

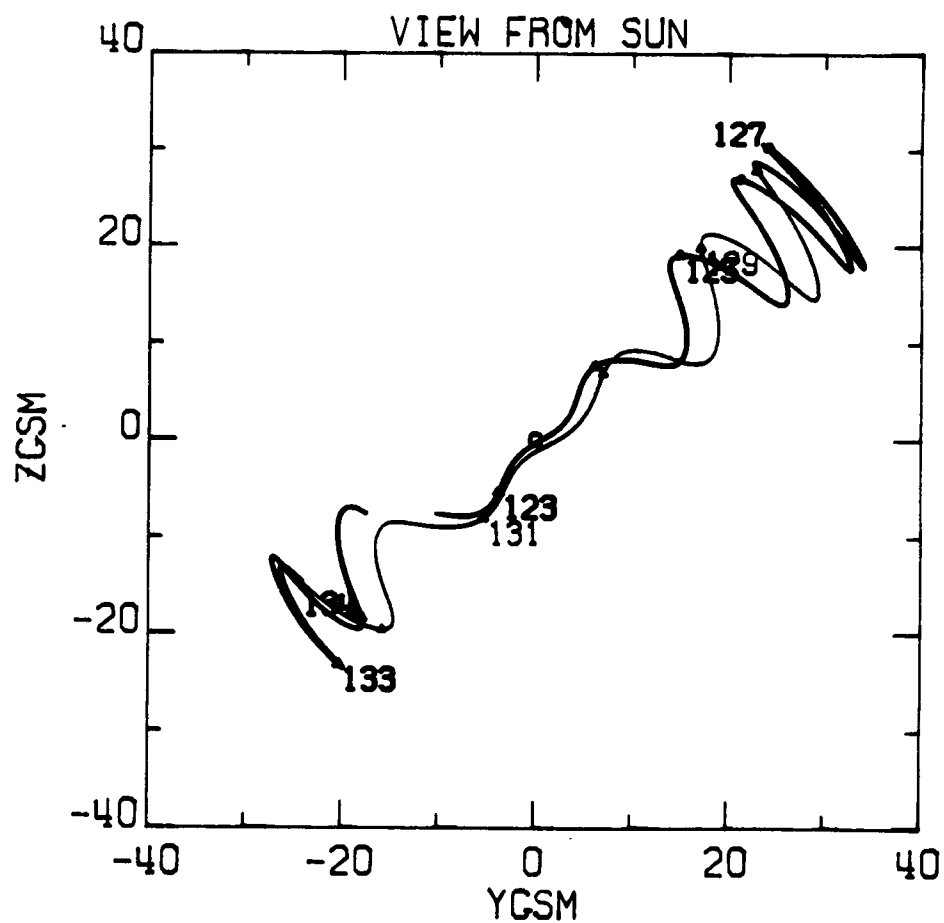
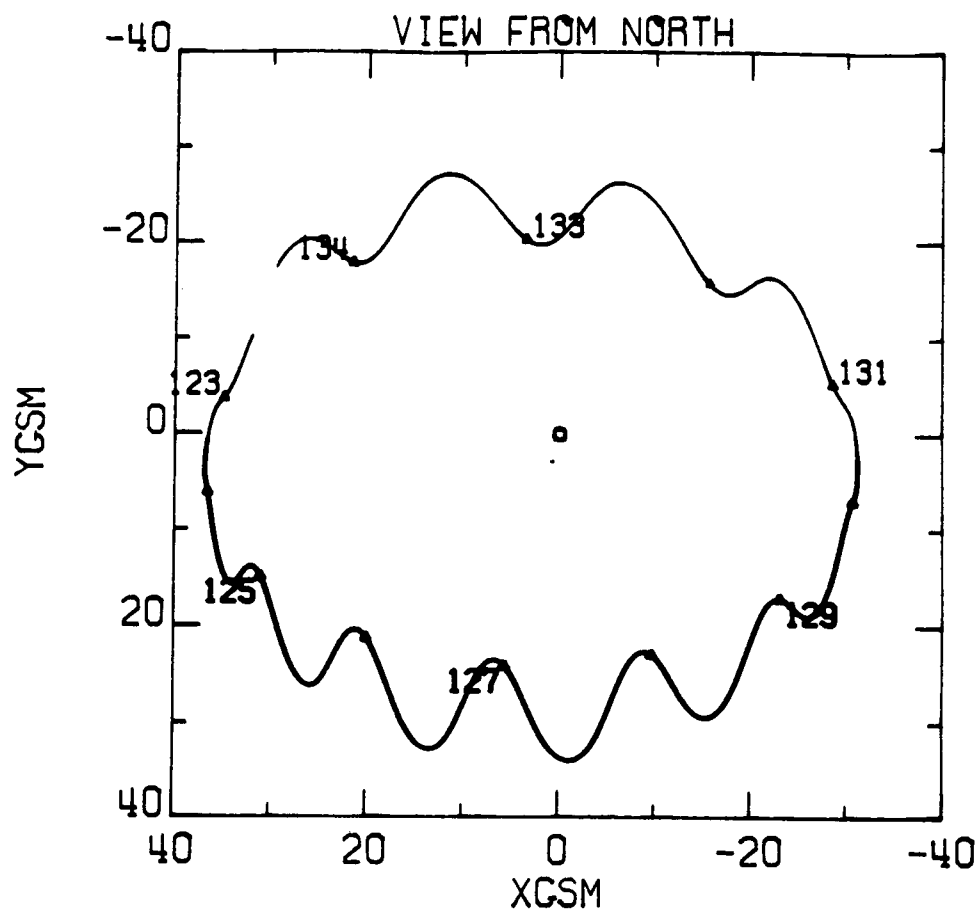
ASCENDING NODE 168

FROM APR 20 TO MAY 2 1978

DAYS 110 THRU 122



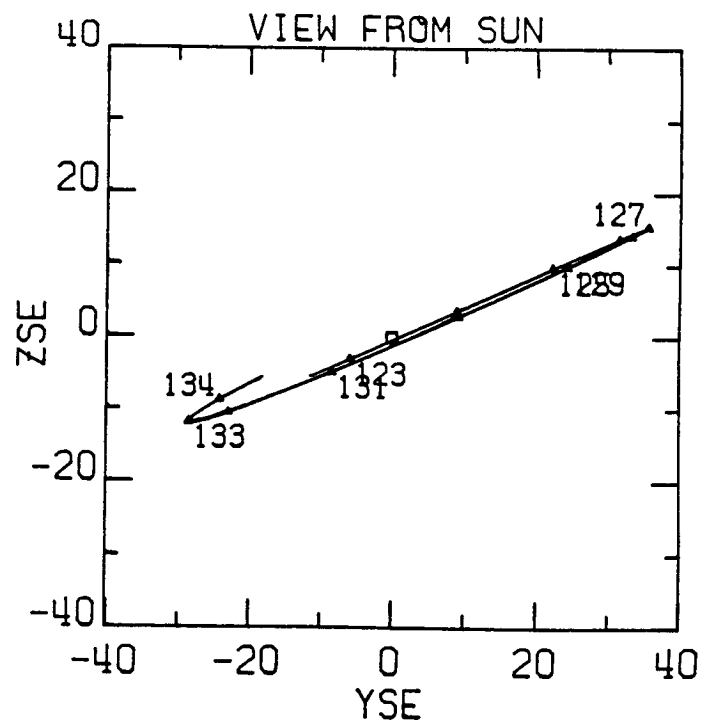
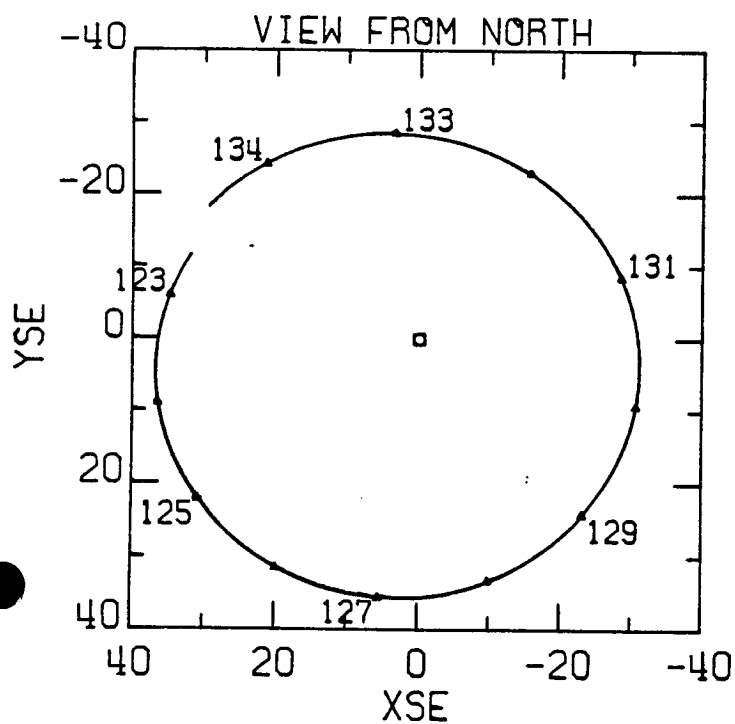
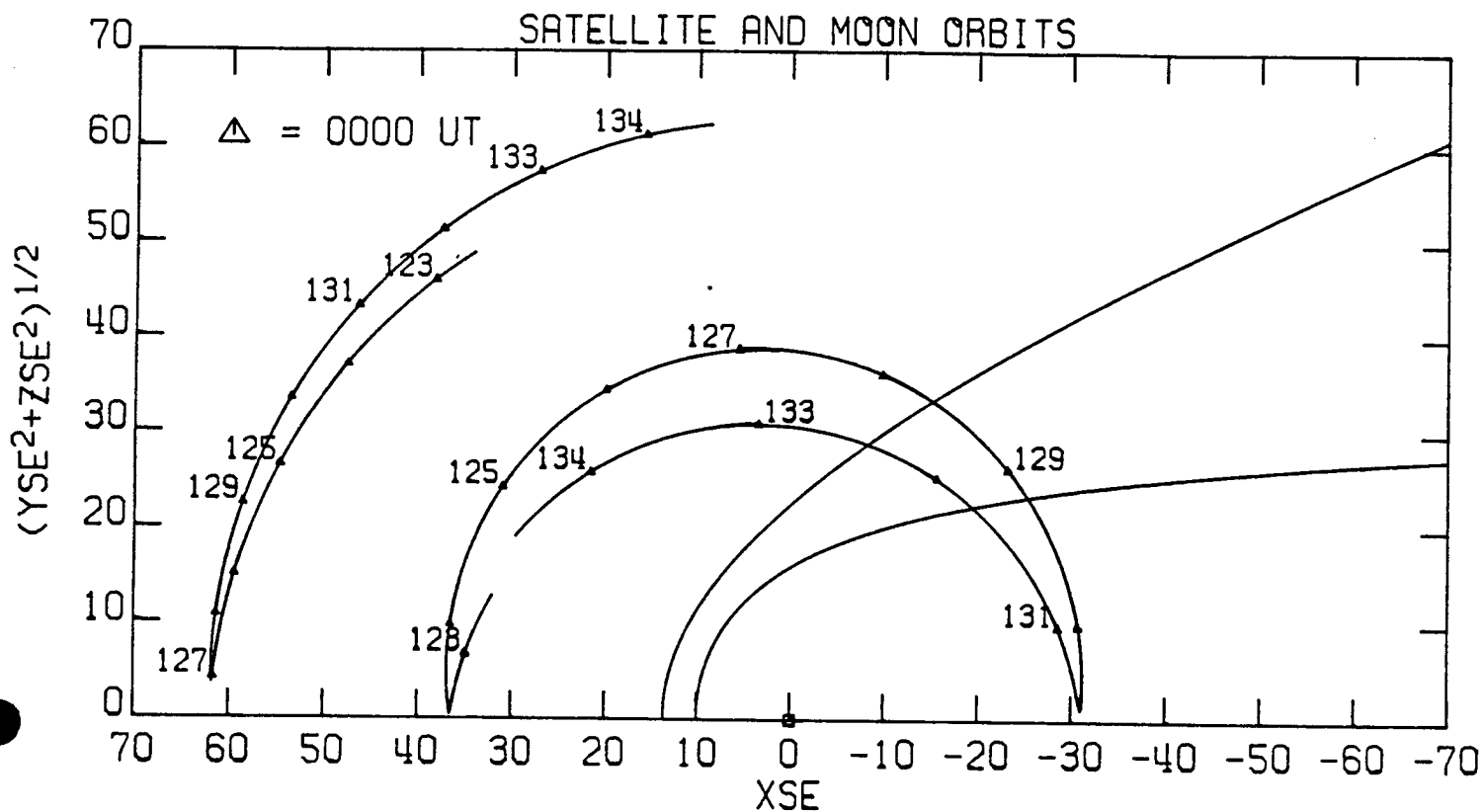
IMP 7 FROM MAY 2 TO MAY 14 1978



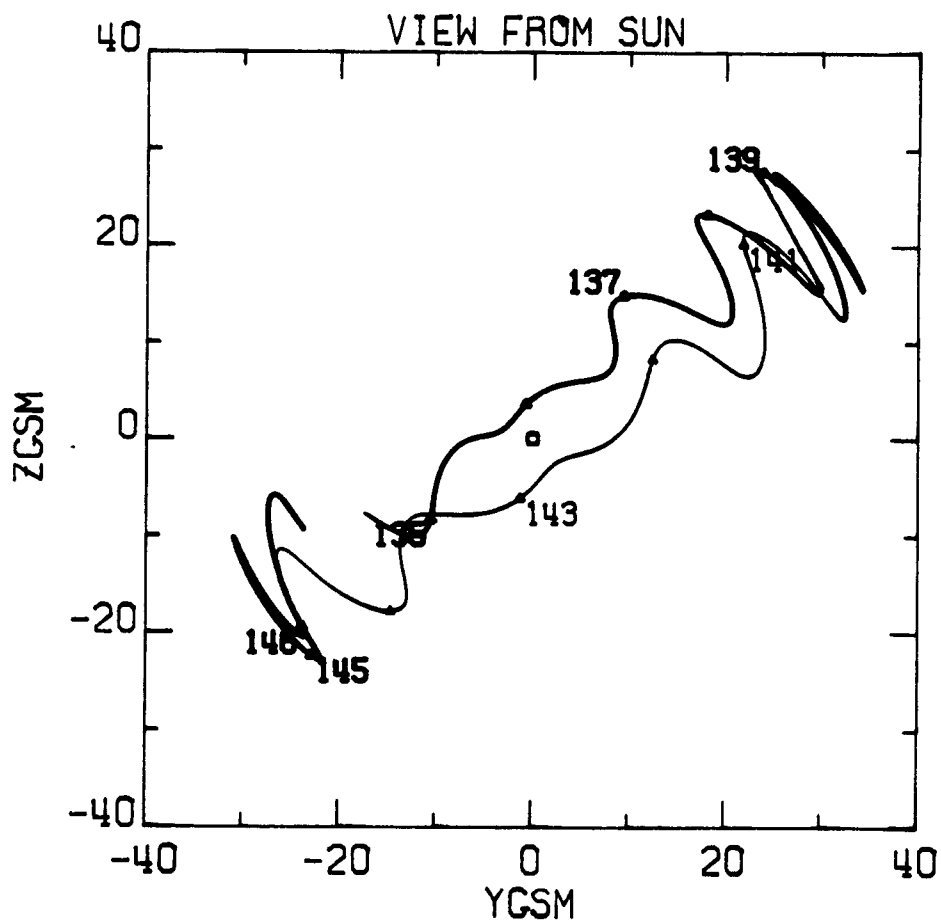
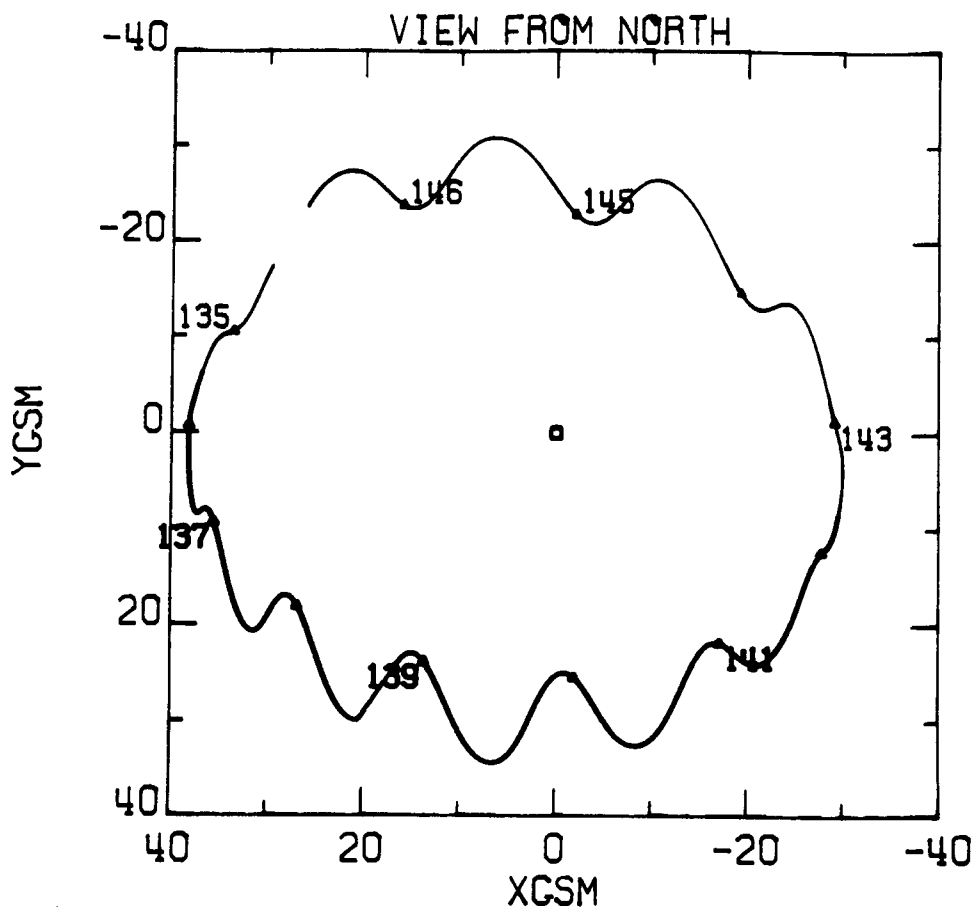
IMP 7 TRAJECTORY. ASCENDING NODE 169

FROM MAY 2 TO MAY 14 1978

DAYS 122 THRU 134



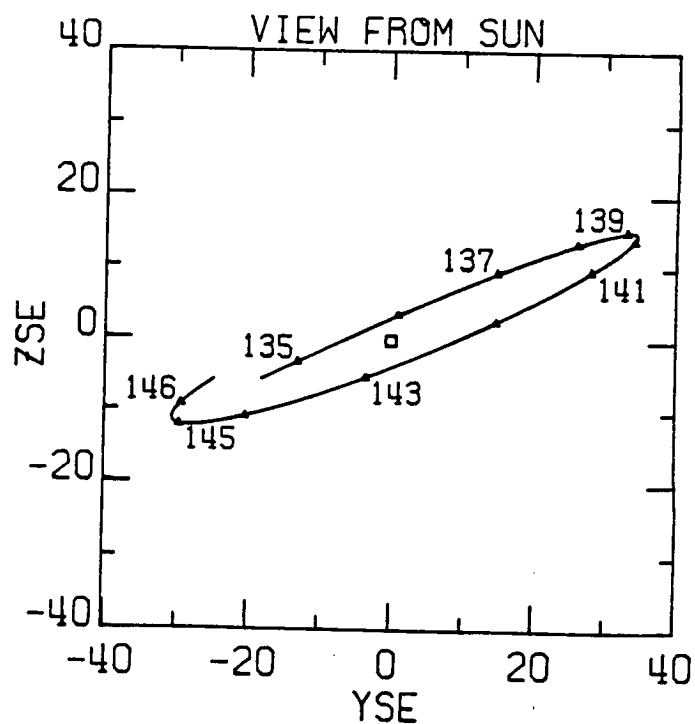
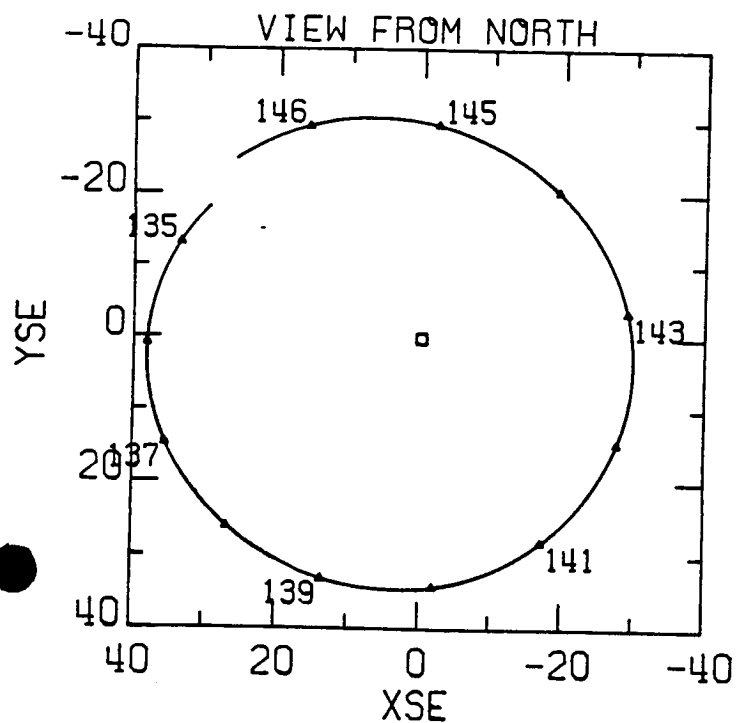
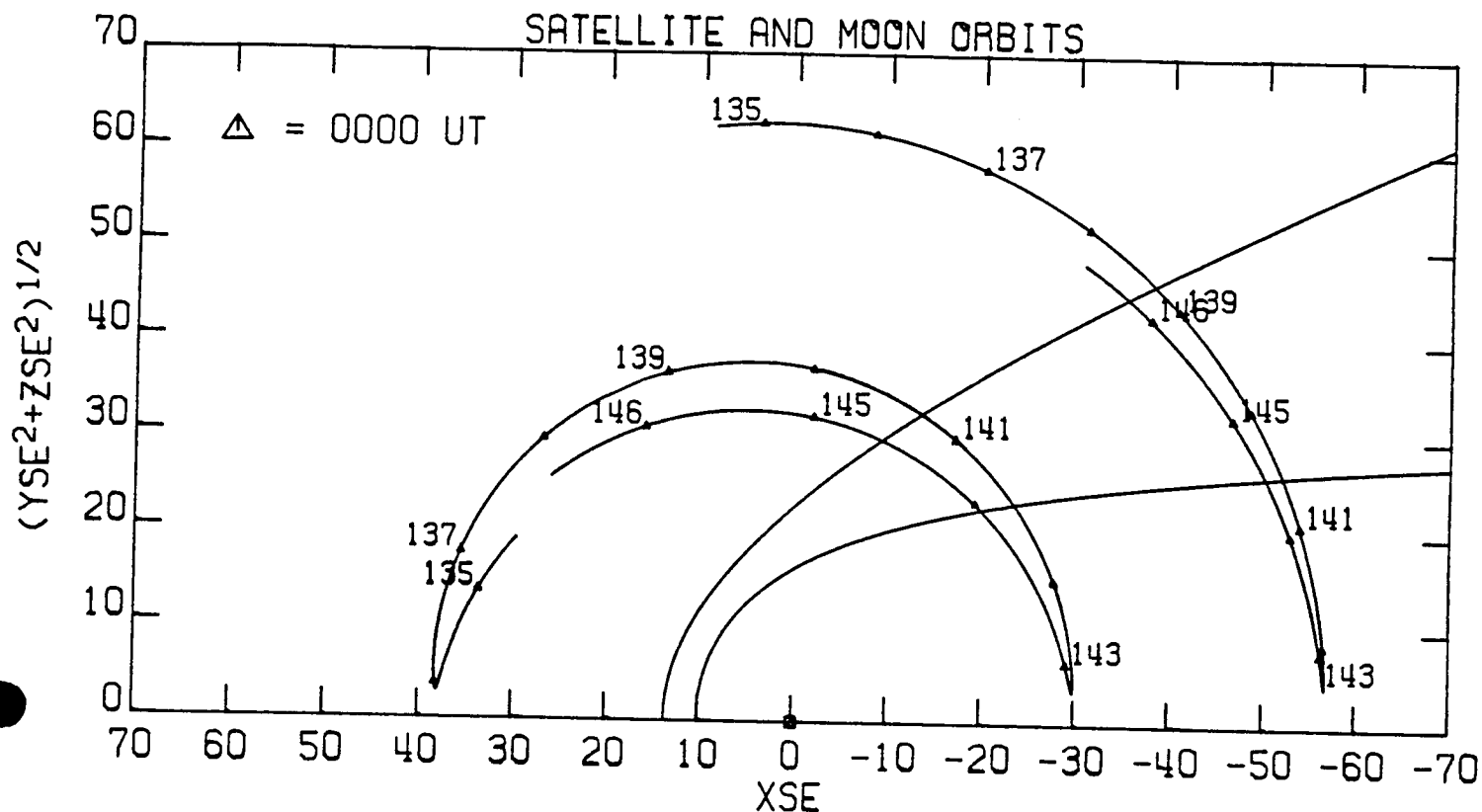
IMP 7 FROM MAY 14 TO MAY 26 1978



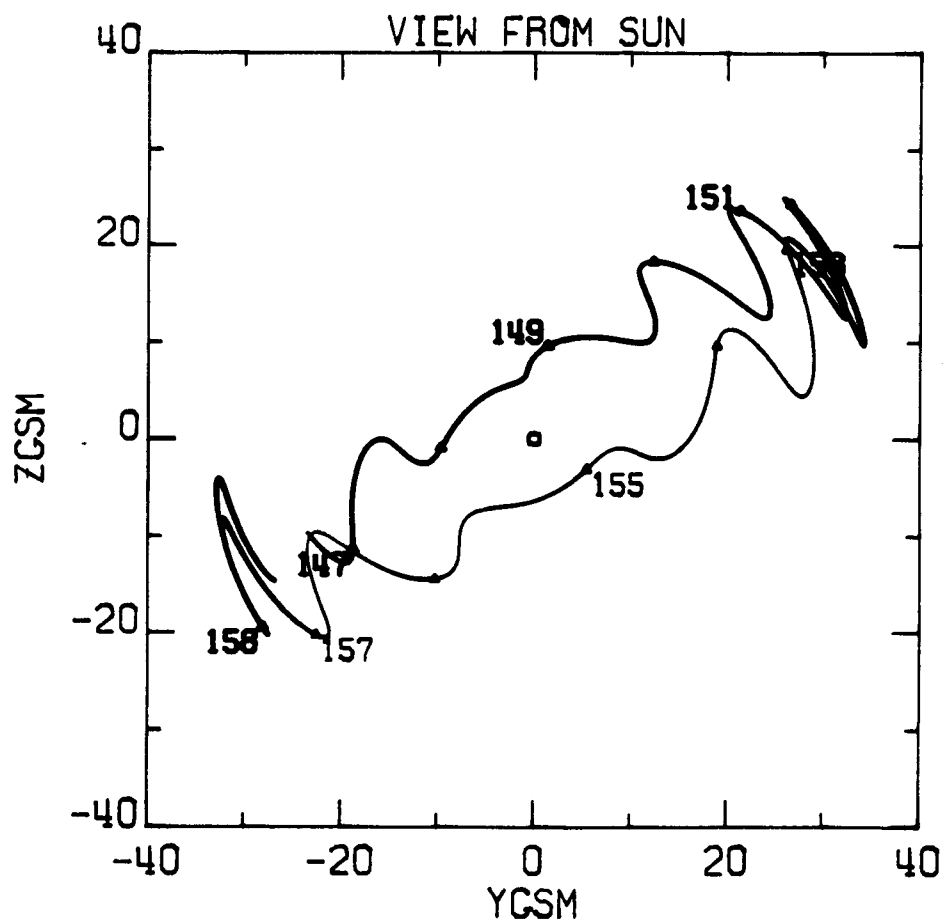
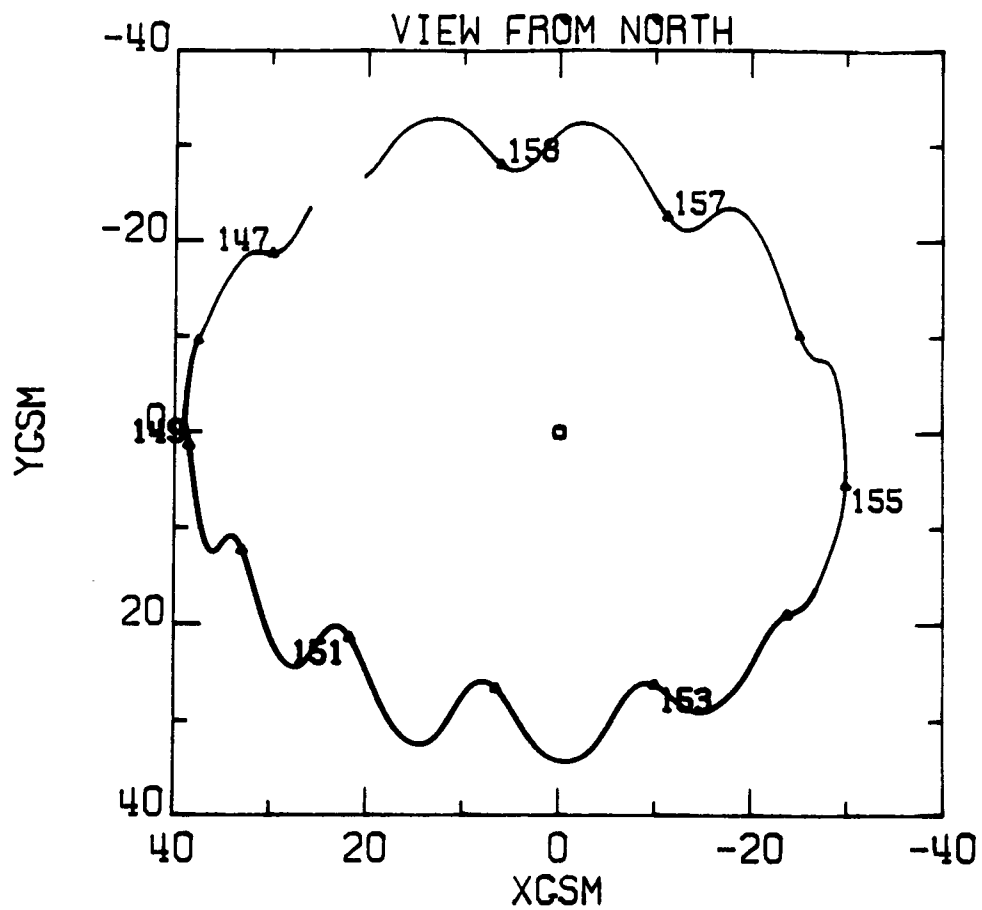
IMP 7 TRAJECTORY. ASCENDING NODE 170

FROM MAY 14 TO MAY 26 1978

DAYS 134 THRU 146



IMP 7 FROM MAY 26 TO JUN 7 1978

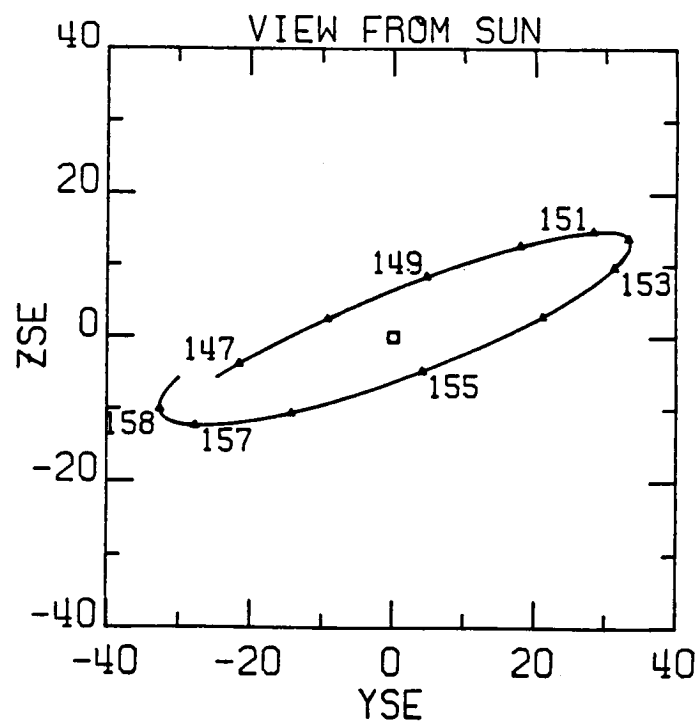
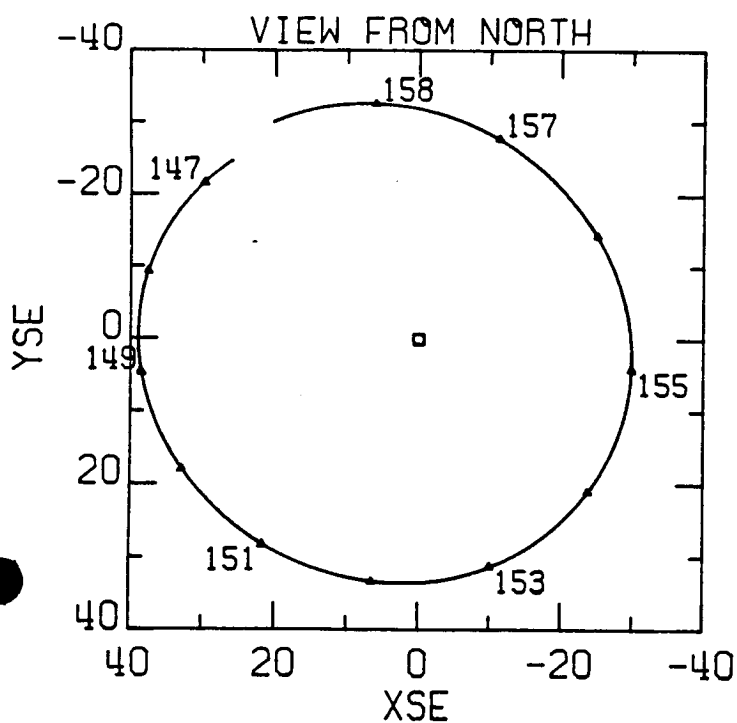
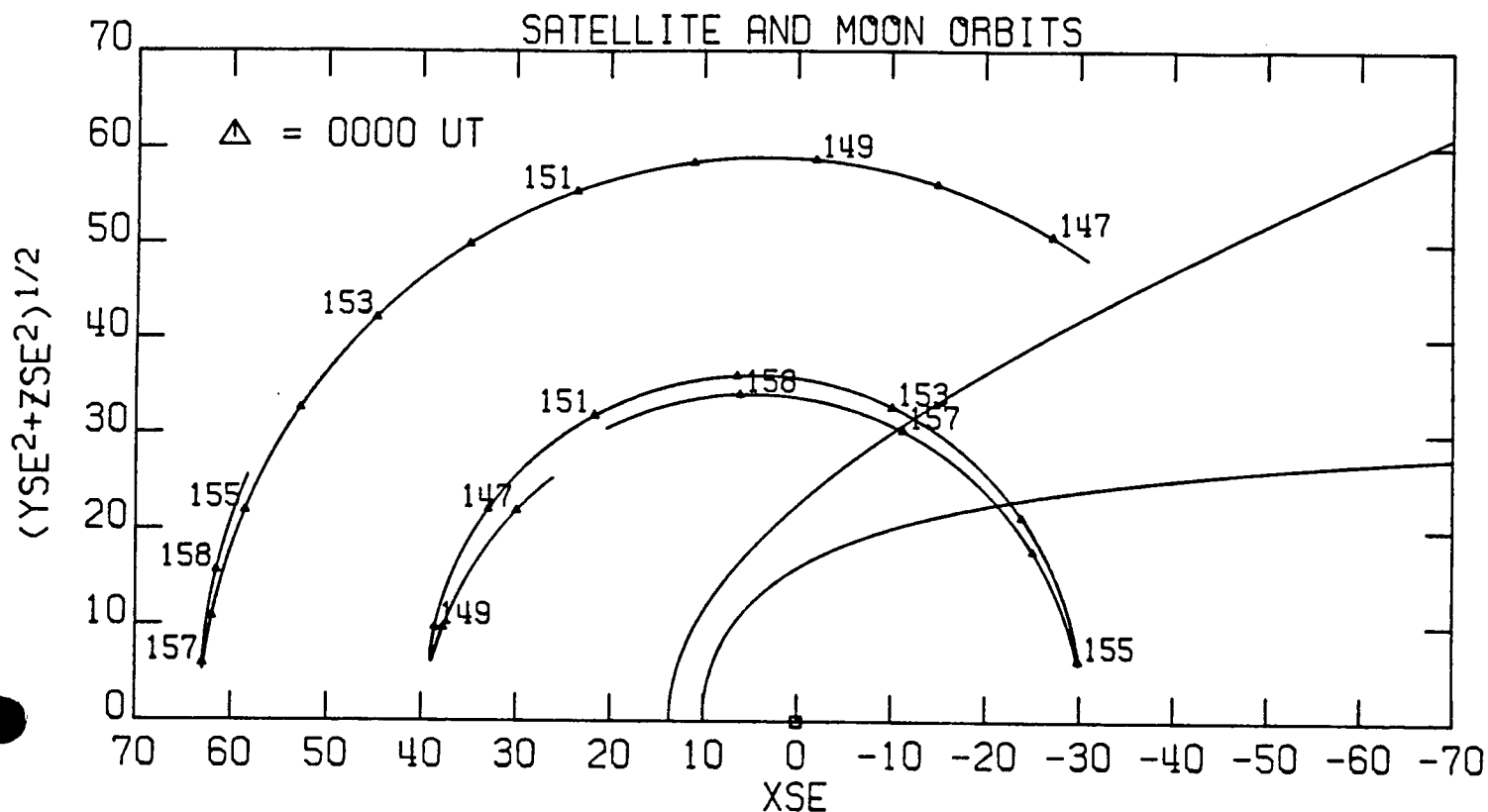


IMP 7 TRAJECTORY.

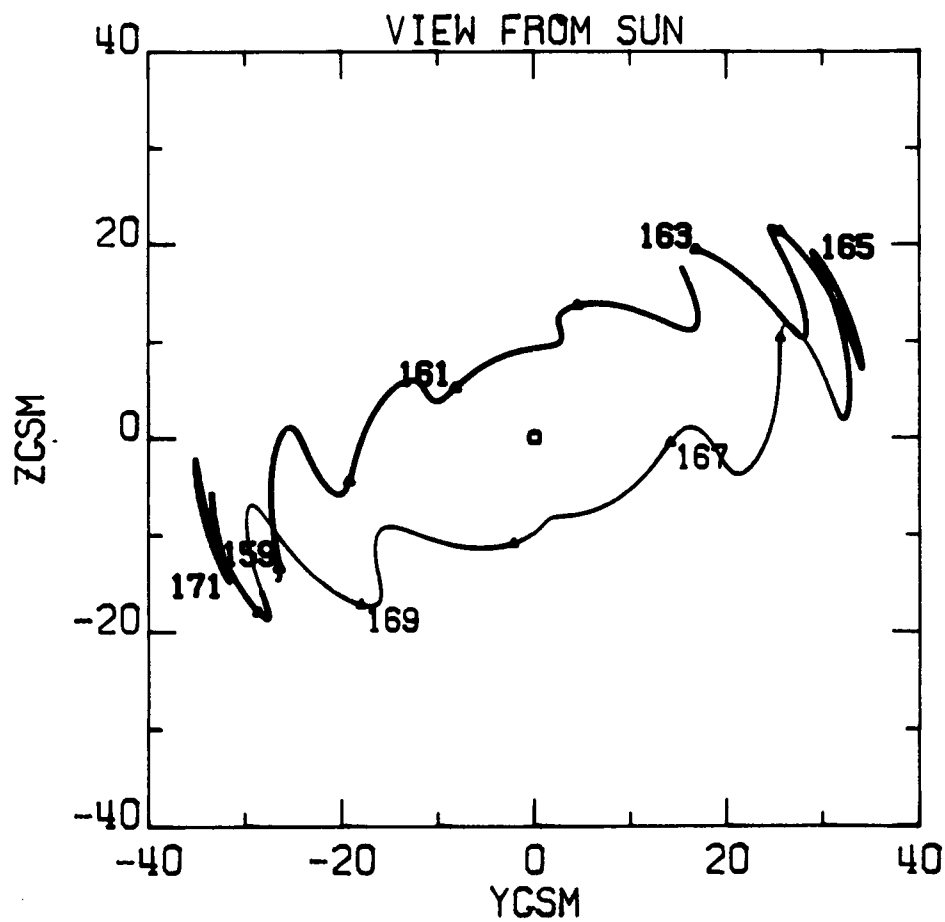
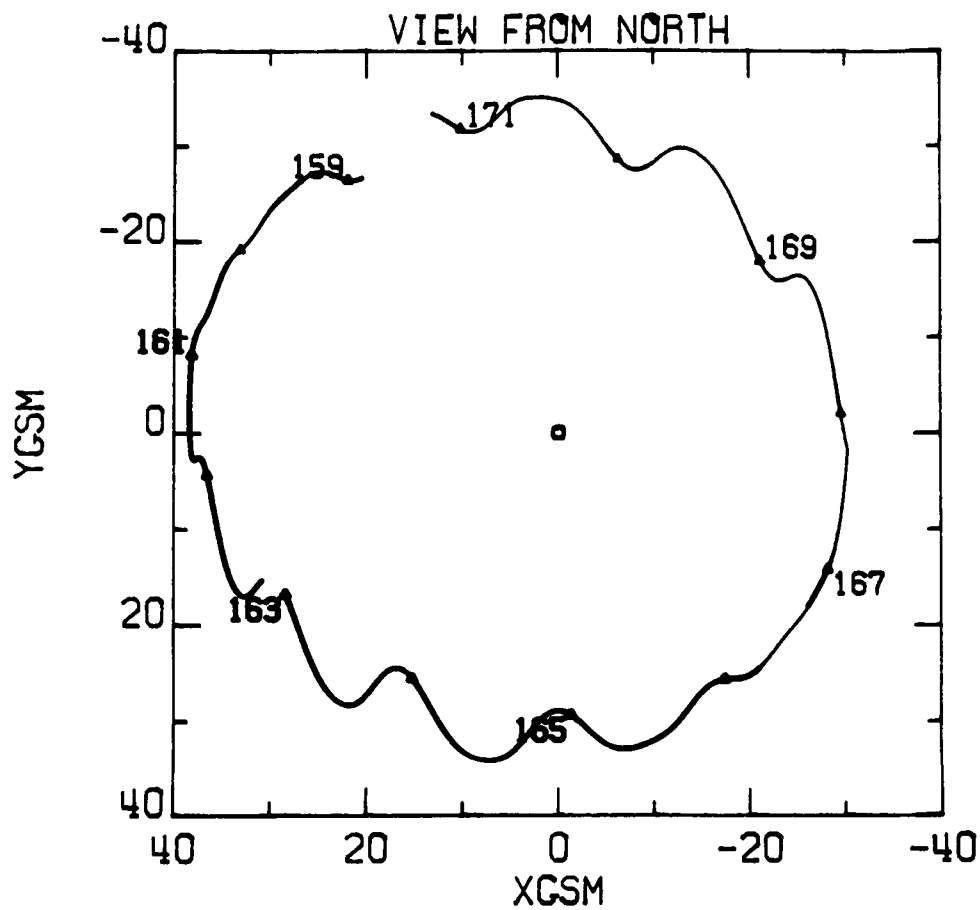
ASCENDING NODE 171

FROM MAY 26 TO JUN 7 1978

DAYS 146 THRU 158



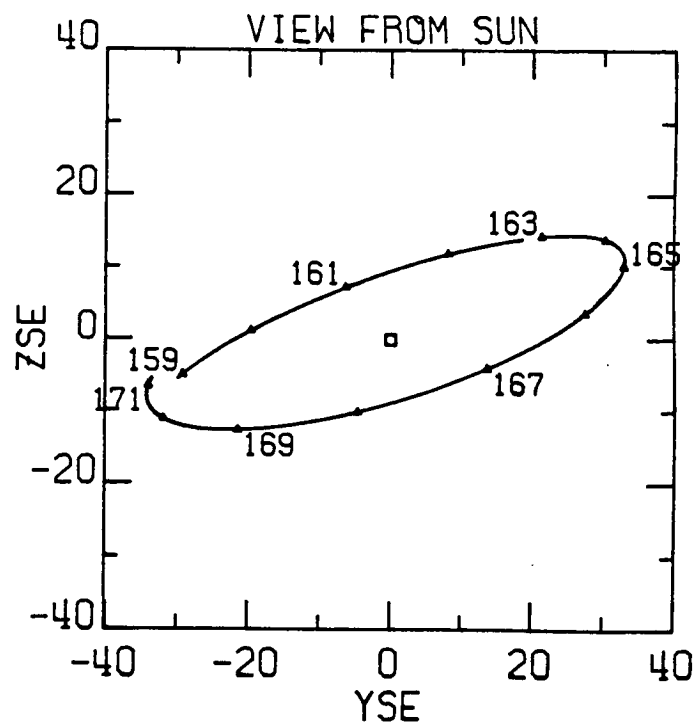
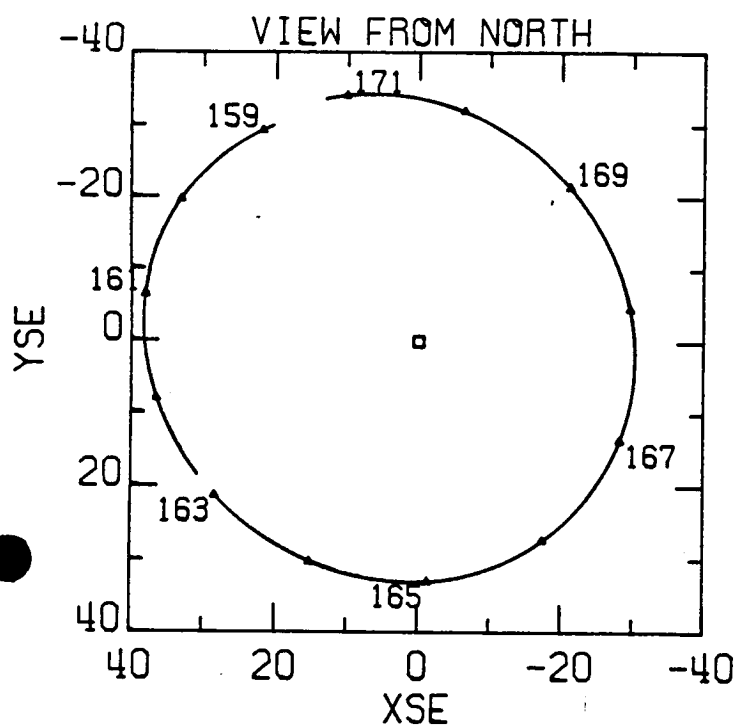
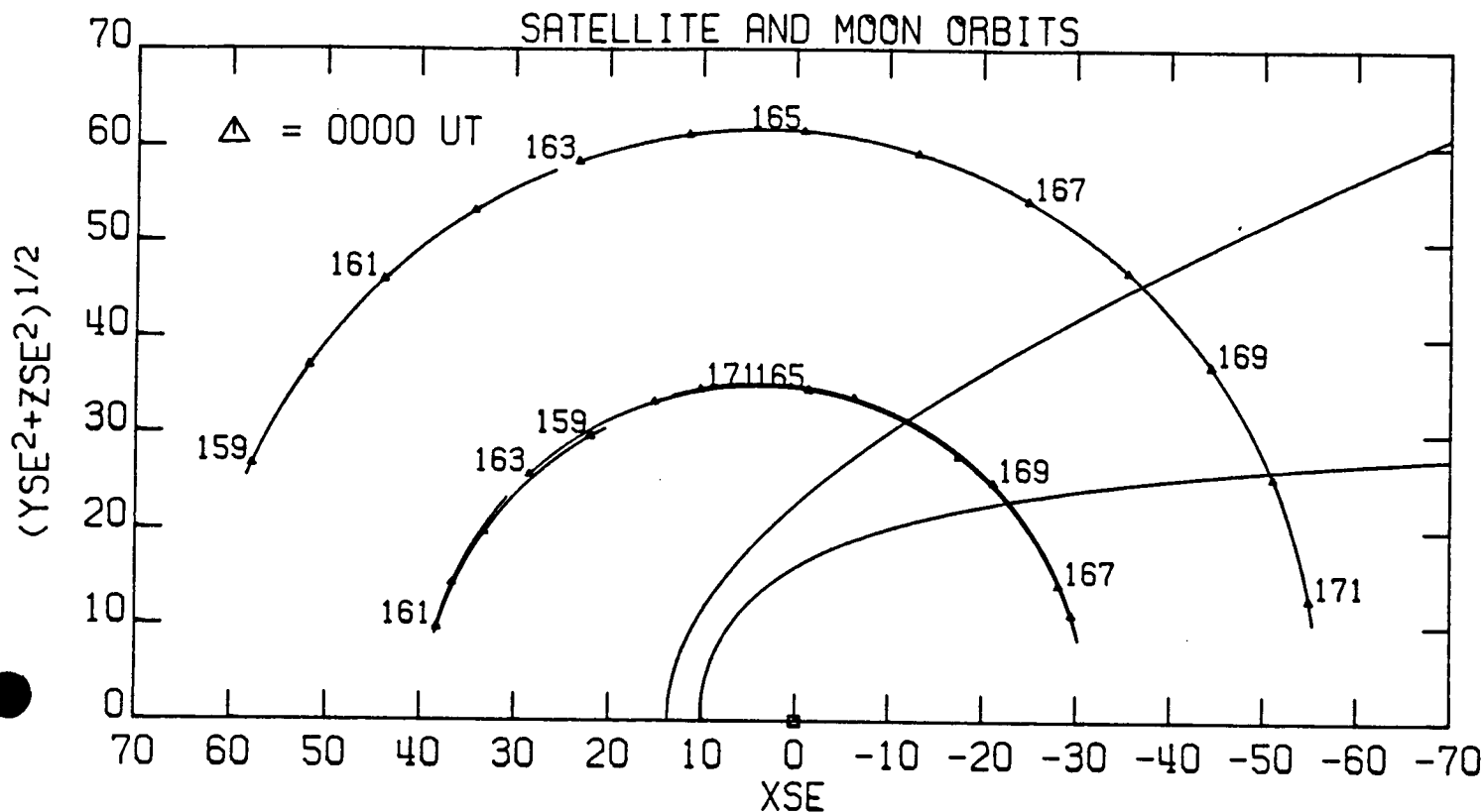
IMP 7 FROM JUN 7 TO JUN 20 1978



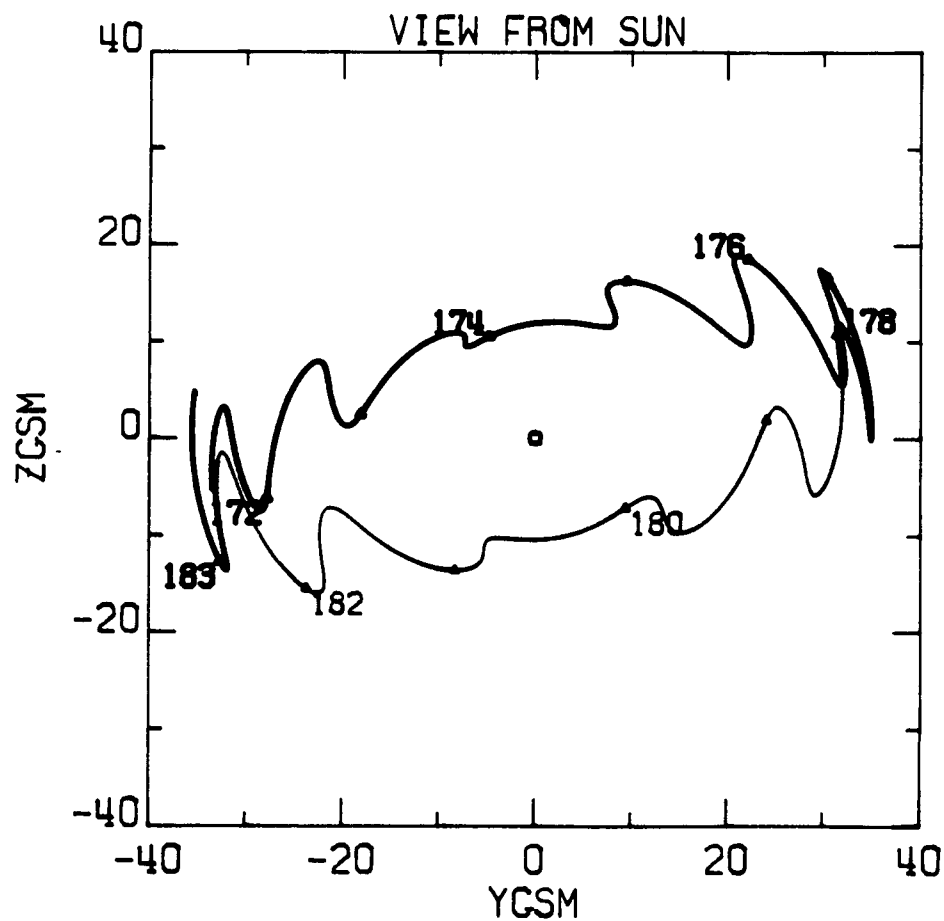
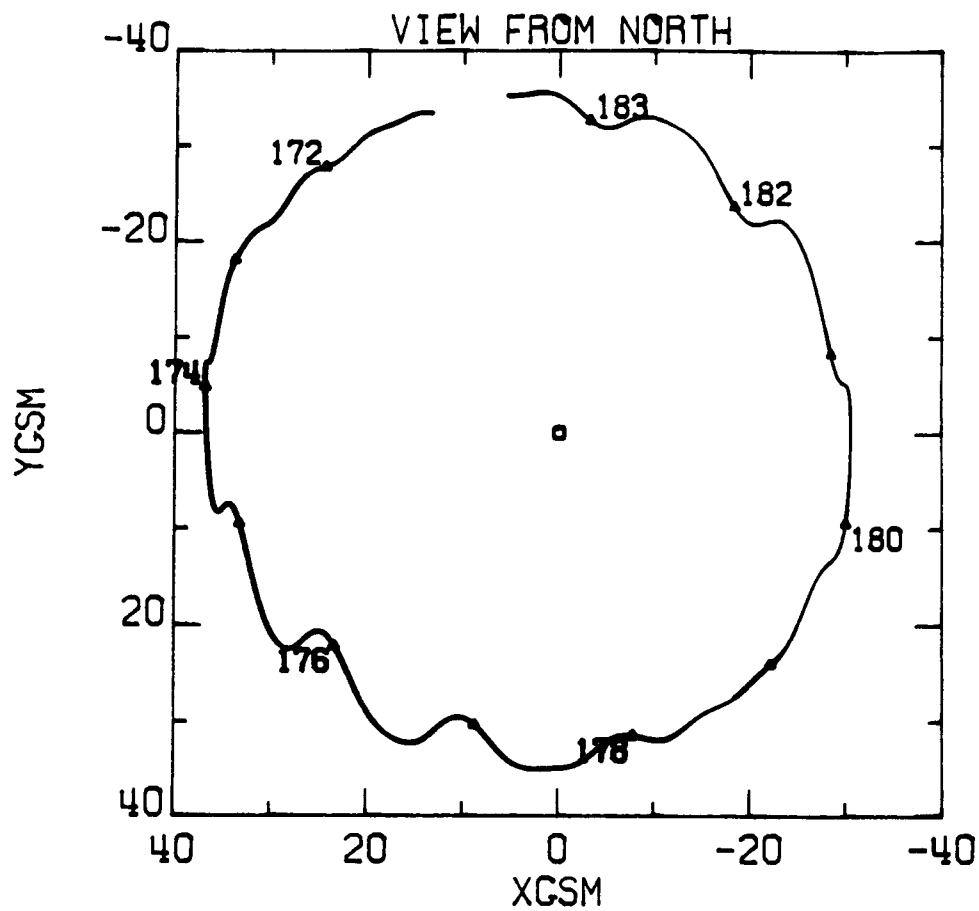
IMP 7 TRAJECTORY. ASCENDING NODE 172

FROM JUN 7 TO JUN 20 1978

DAYS 158 THRU 171



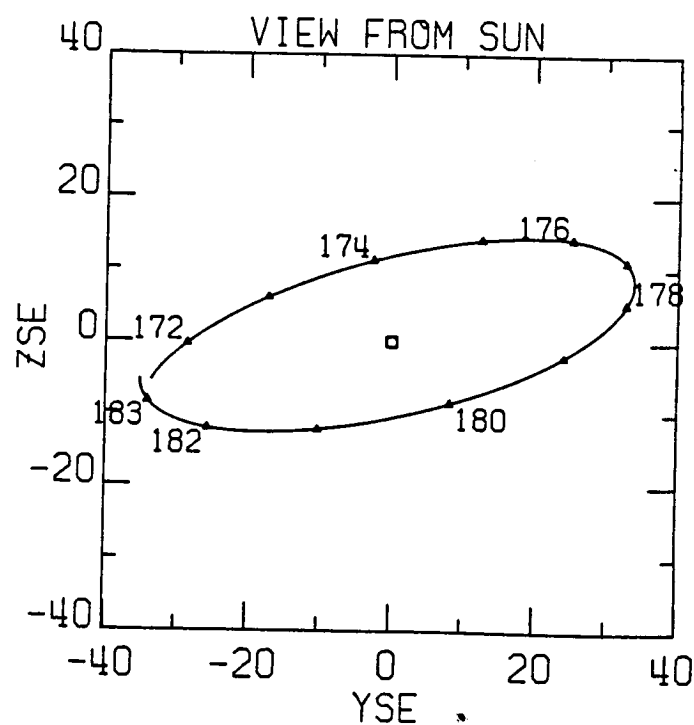
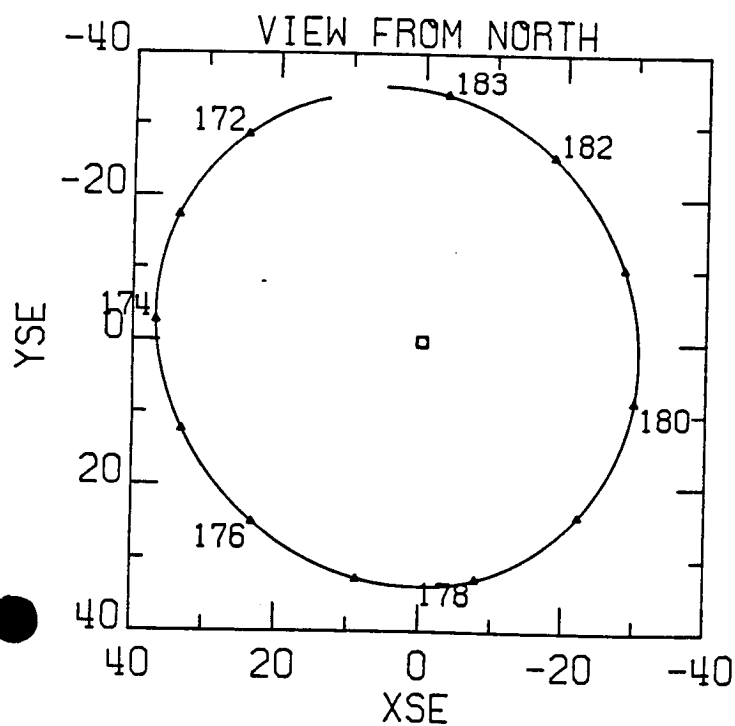
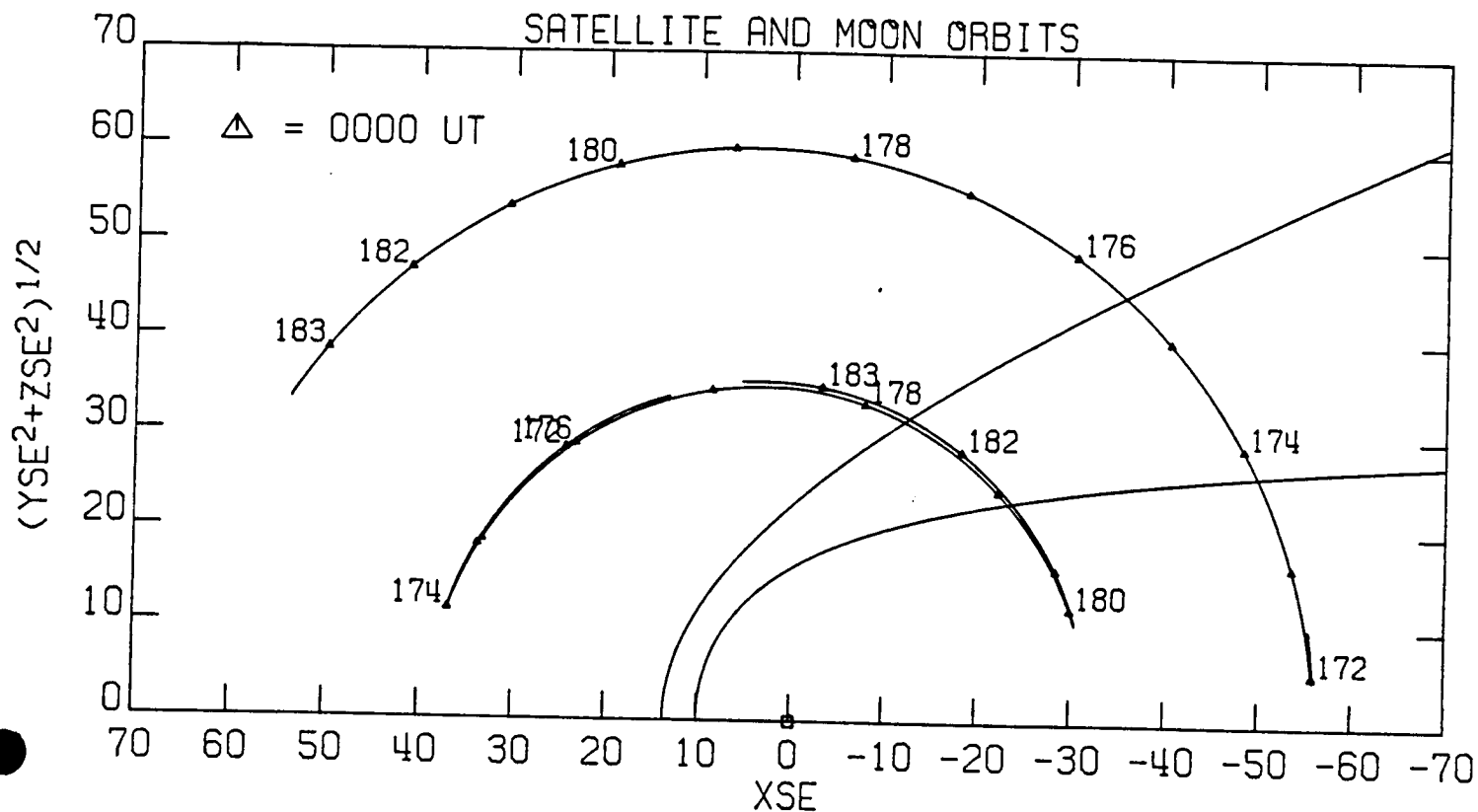
IMP 7 FROM JUN 20 TO JUL 2 1978



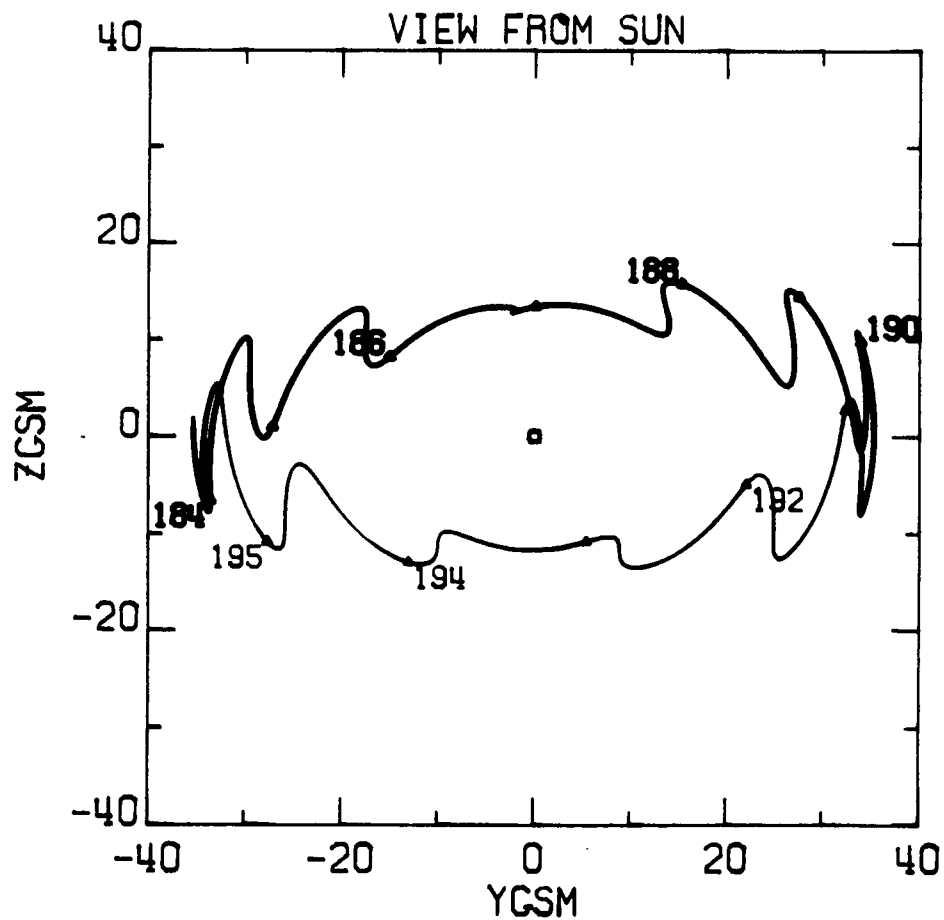
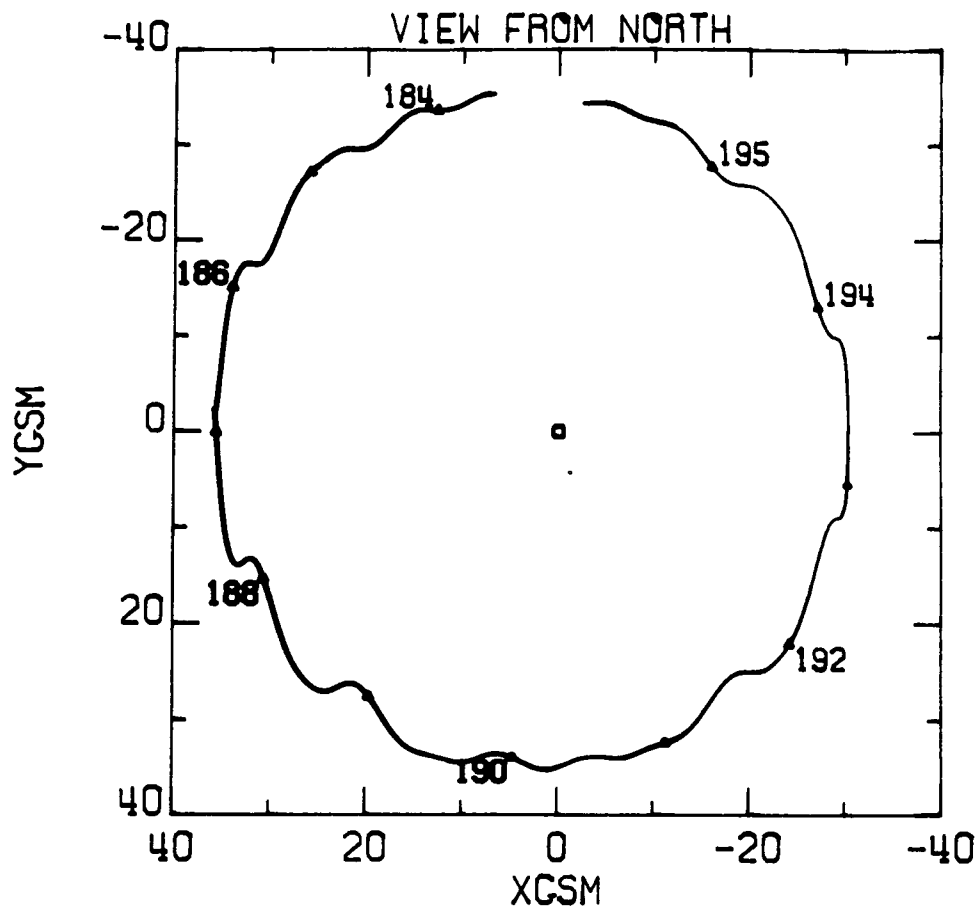
IMP 7 TRAJECTORY. ASCENDING NODE 173

FROM JUN 20 TO JUL 2 1978

DAYS 171 THRU 183



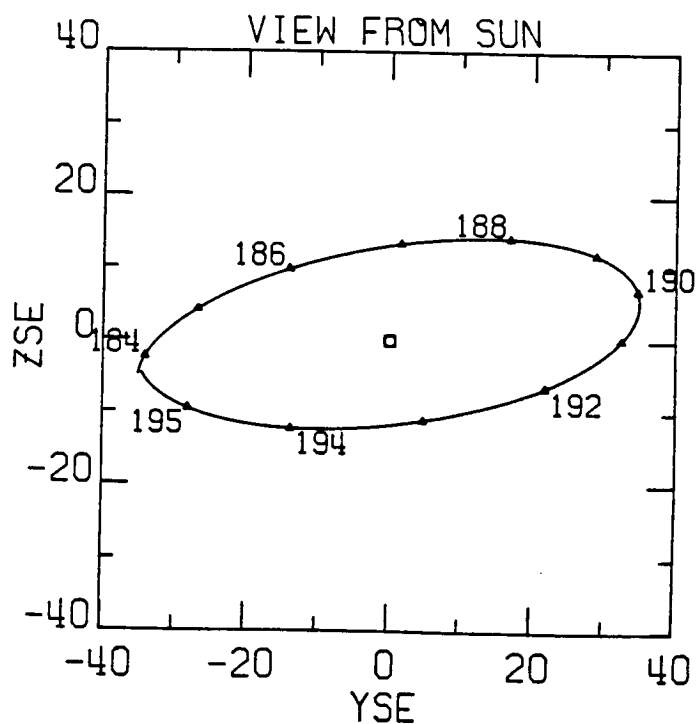
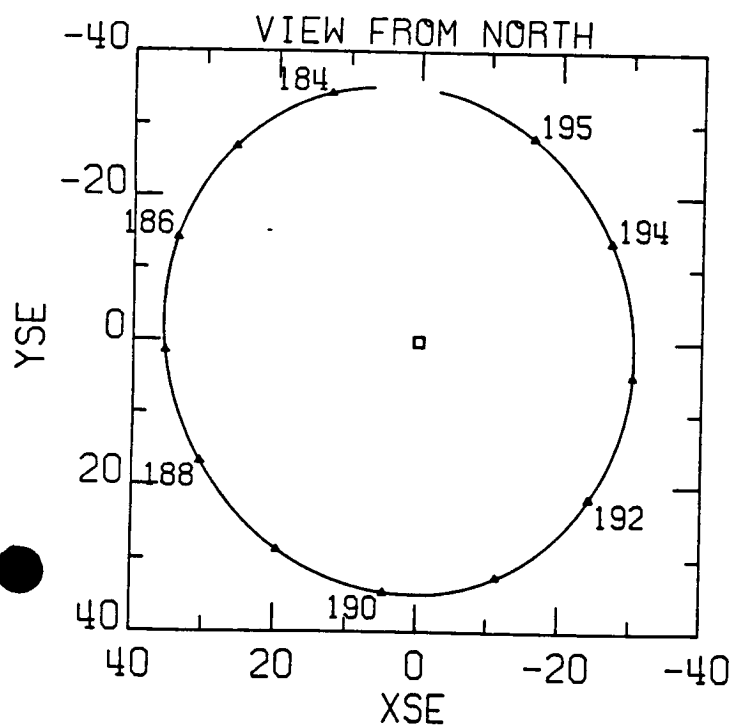
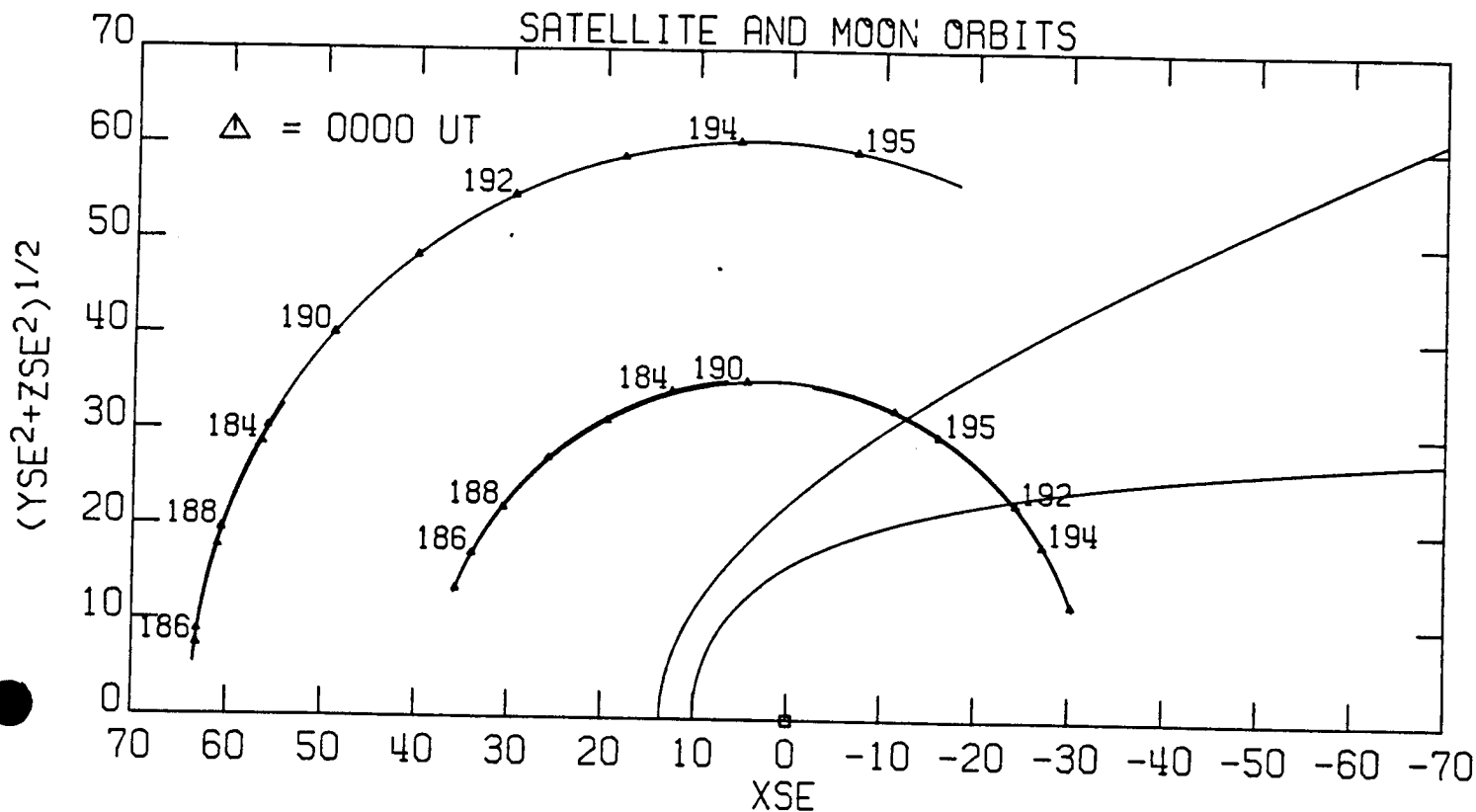
IMP 7 FROM JUL 2 TO JUL 14 1978



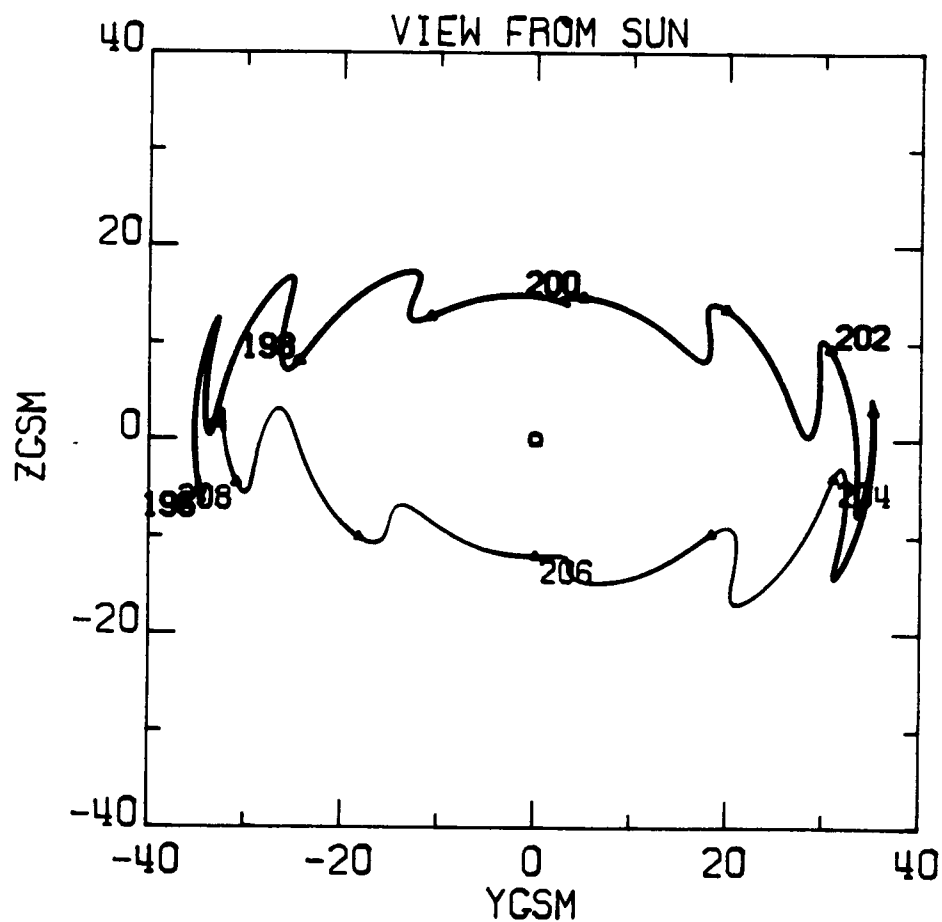
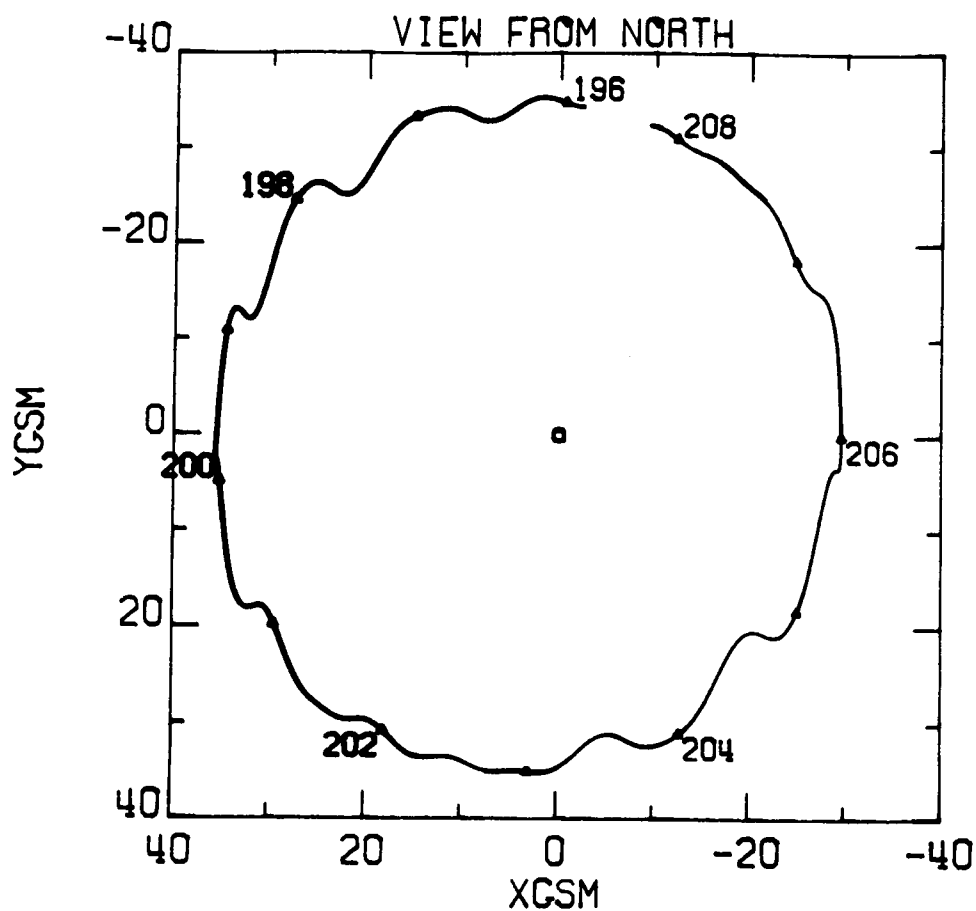
IMP 7 TRAJECTORY. ASCENDING NODE 174

FROM JUL 2 TO JUL 14 1978

DAYS 183 THRU 195



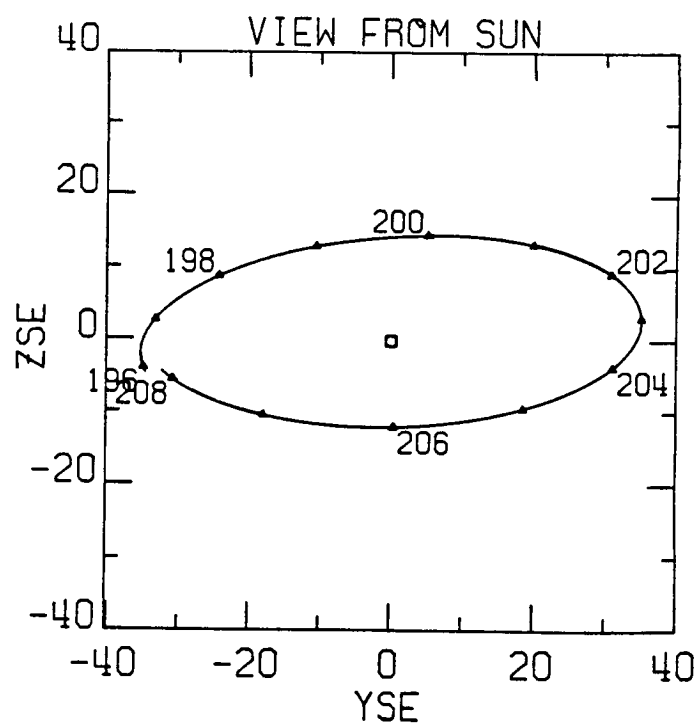
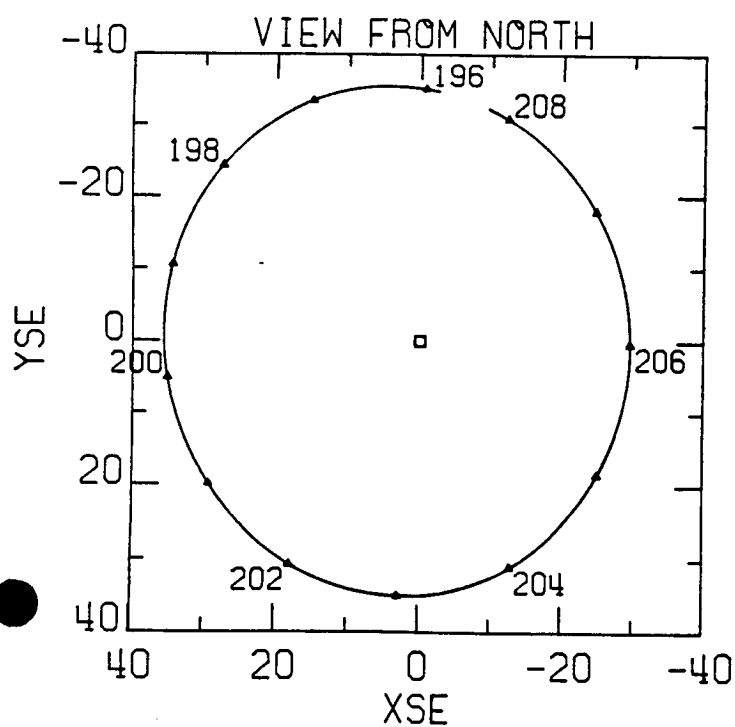
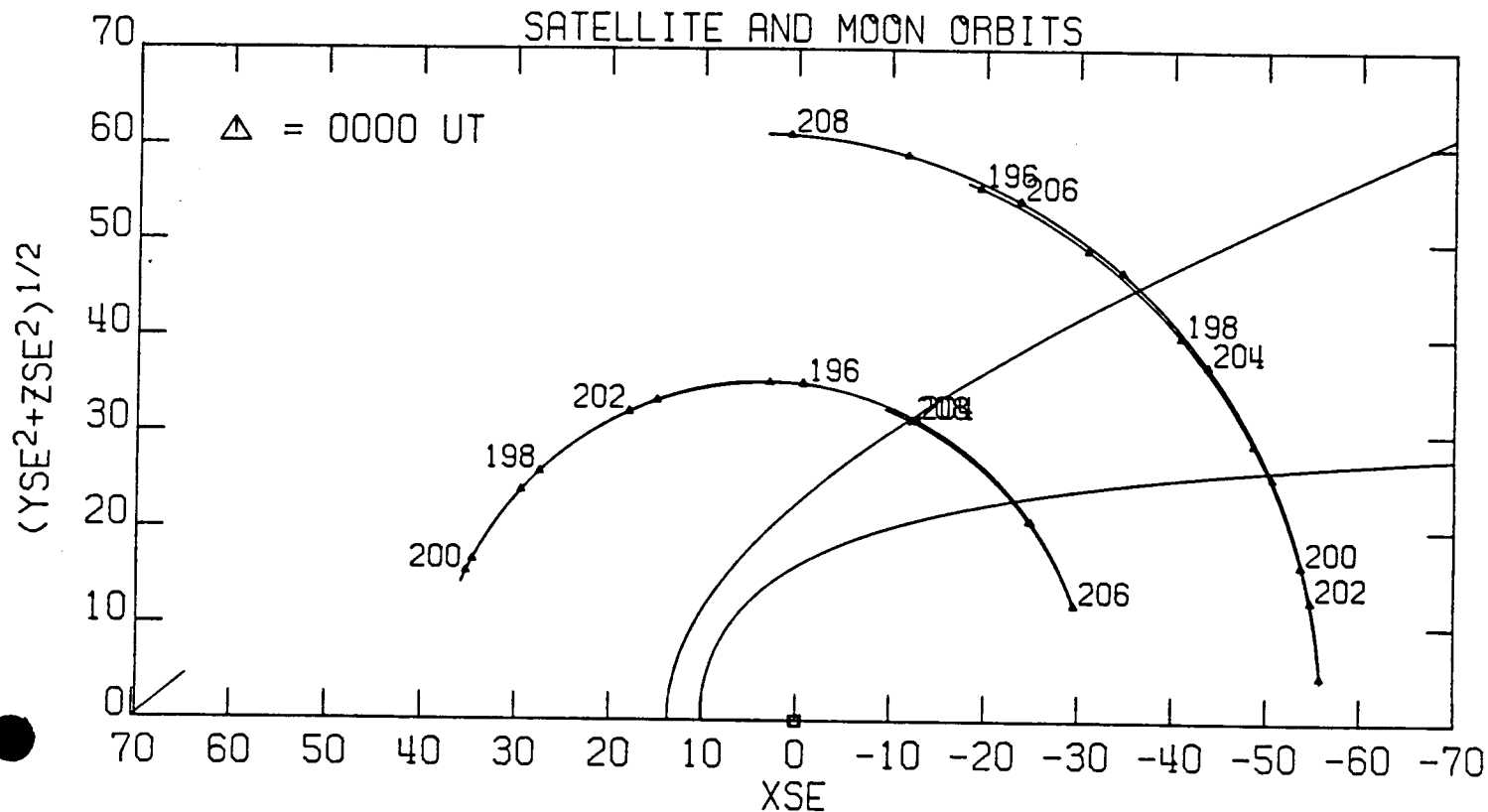
IMP 7 FROM JUL 14 TO JUL 27 1978



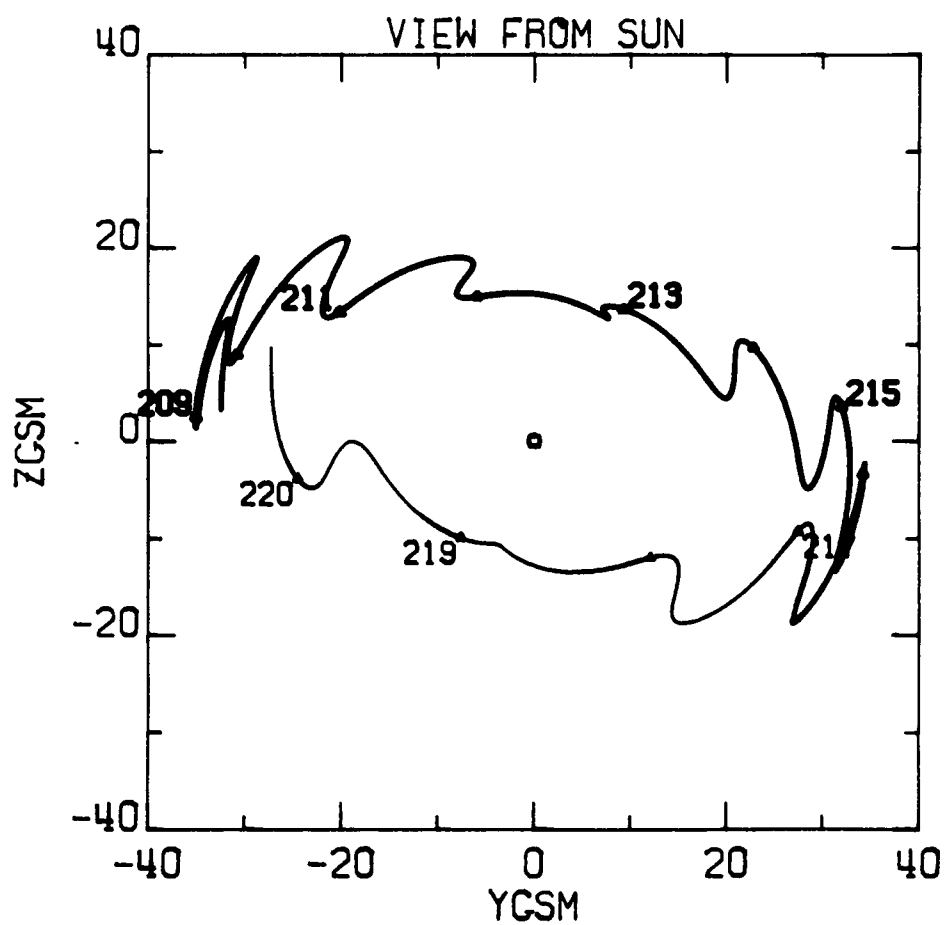
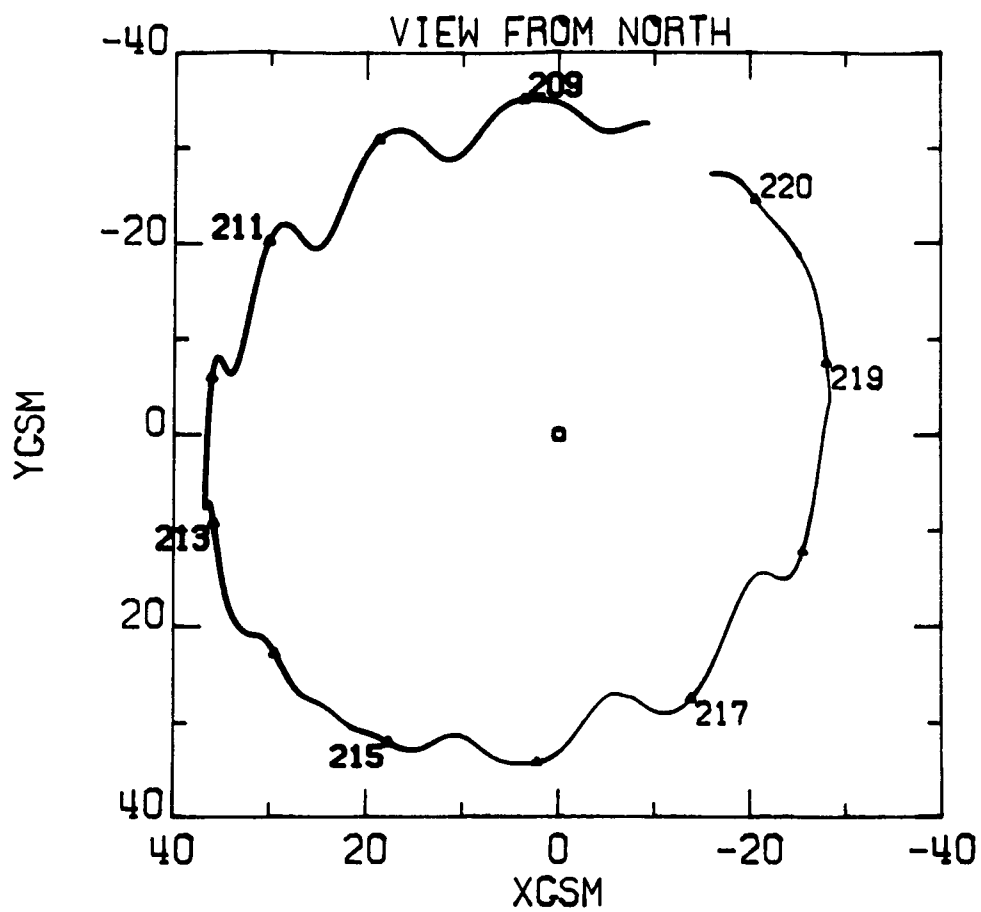
FROM JUL 14 TO JUL 27 1978

DAYS 195 THRU 208

SATELLITE AND MOON ORBITS



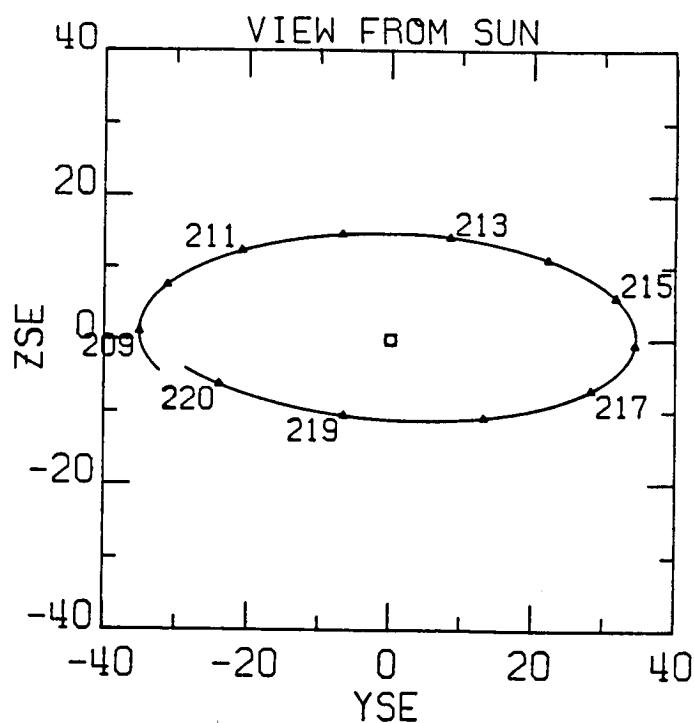
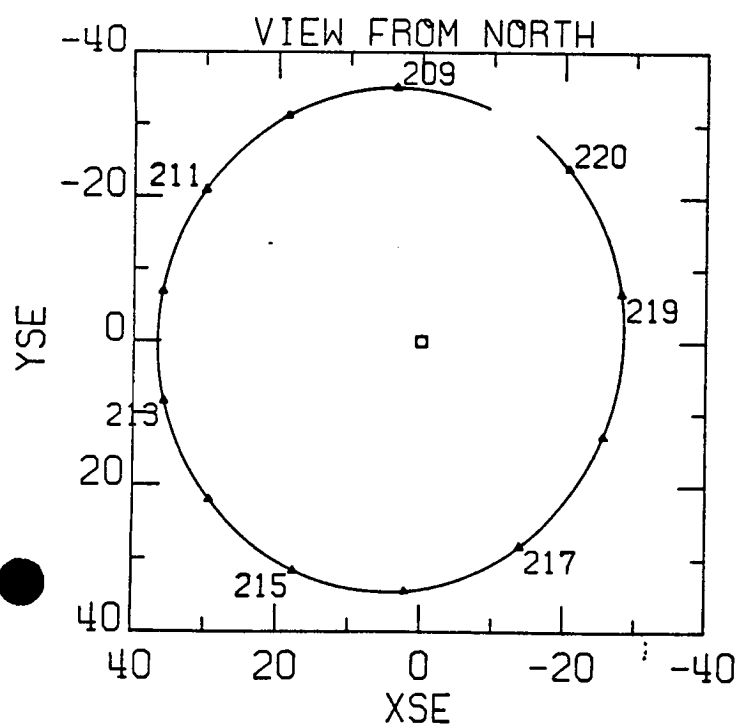
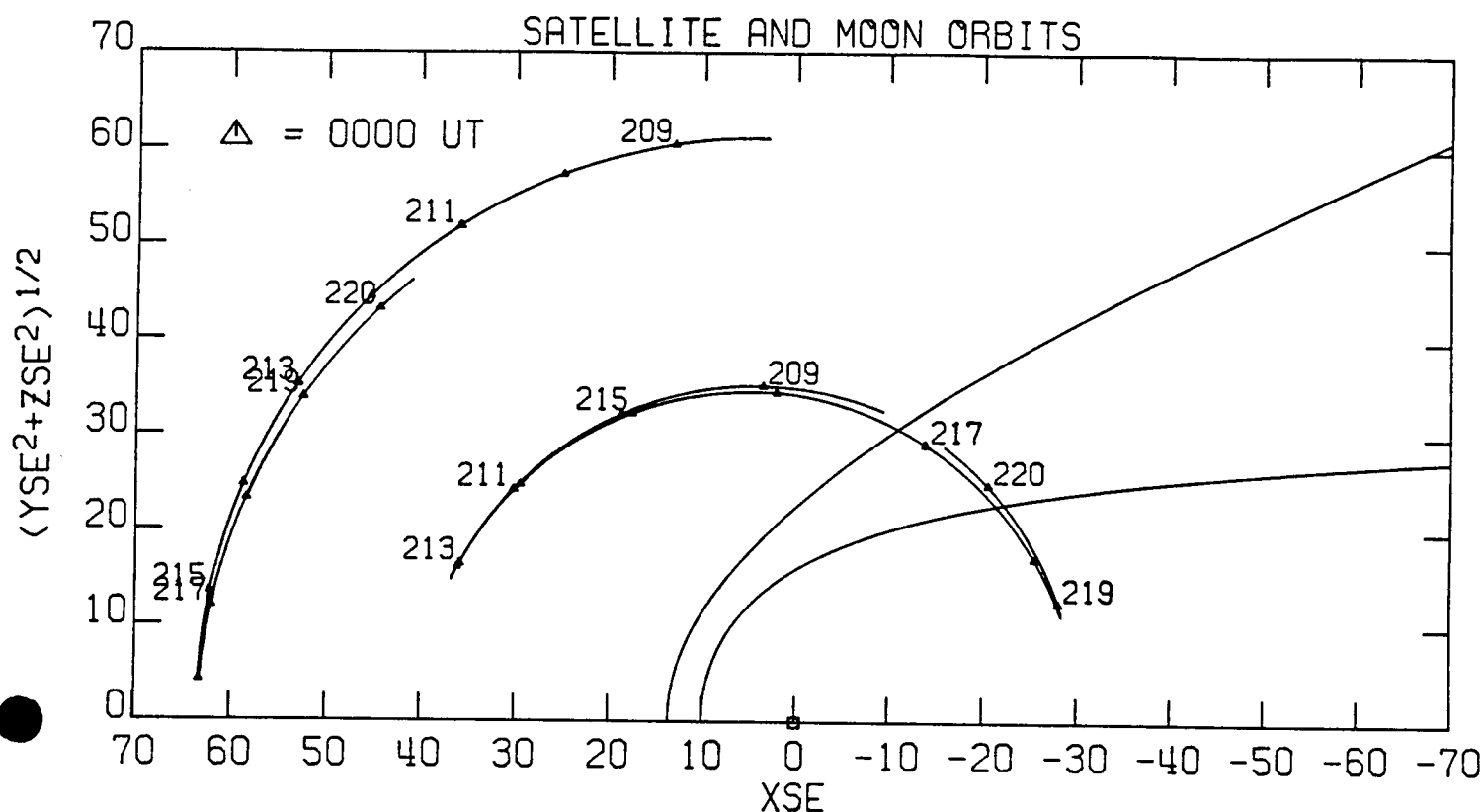
IMP 7 FROM JUL 27 TO AUG 8 1978



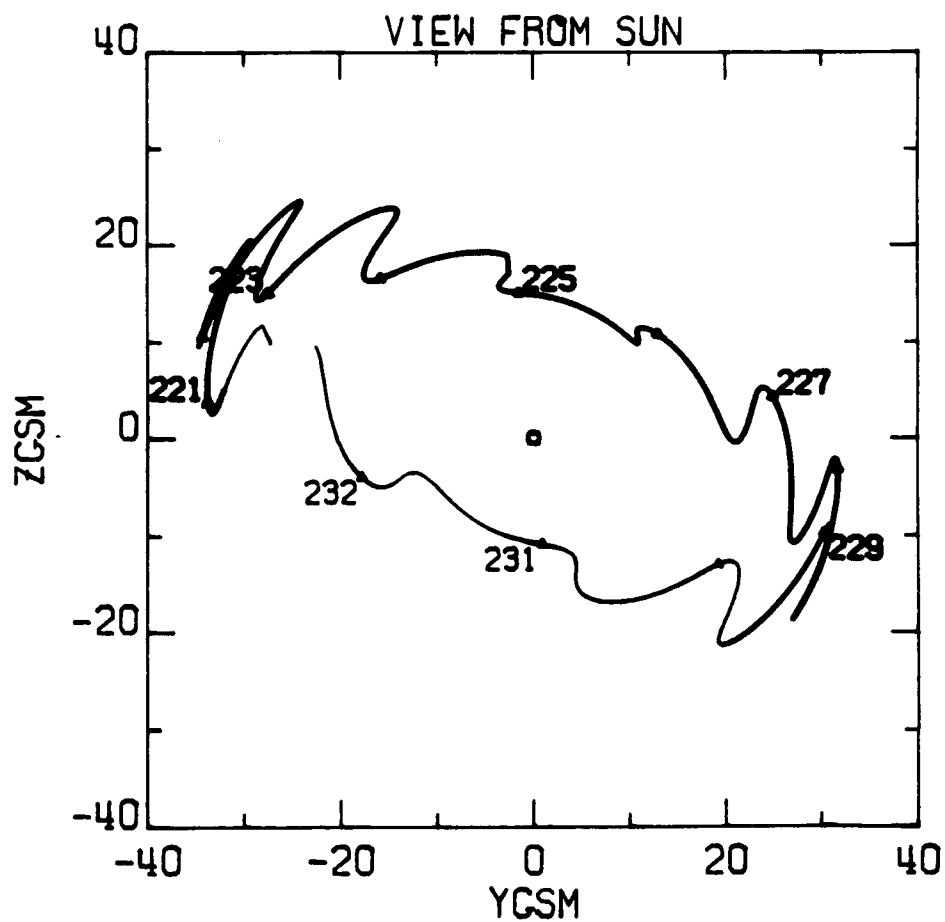
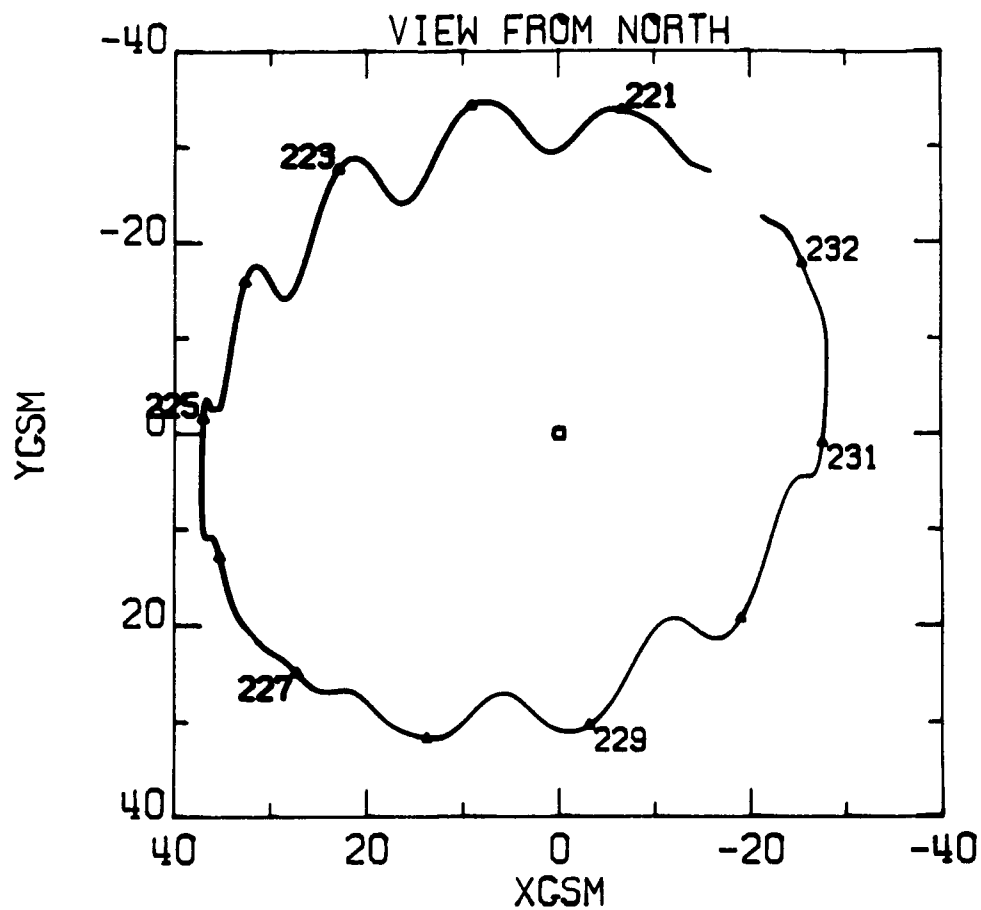
IMP 7 TRAJECTORY... ASCENDING NODE 176

FROM JUL 27 TO AUG 8 1978

DAYS 208 THRU 220



IMP 7 FROM AUG 8 TO AUG 20 1978

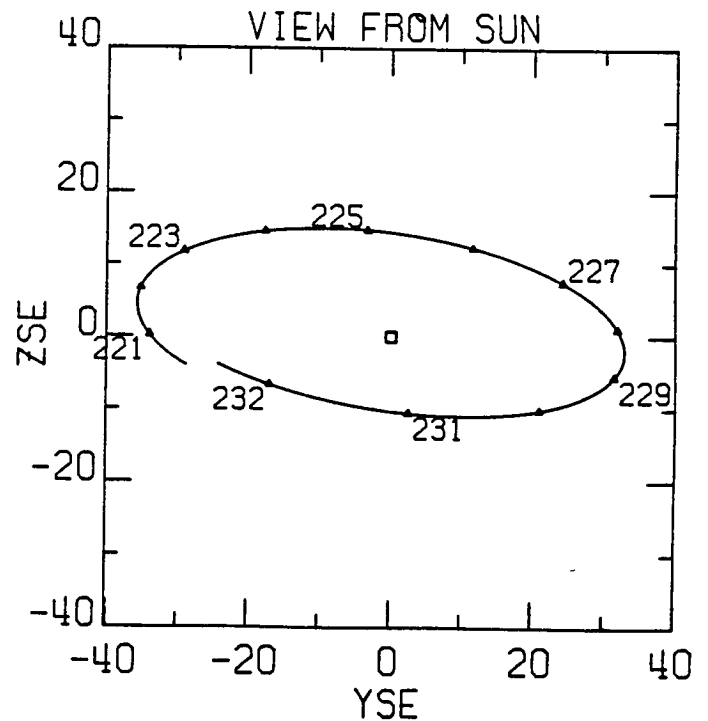
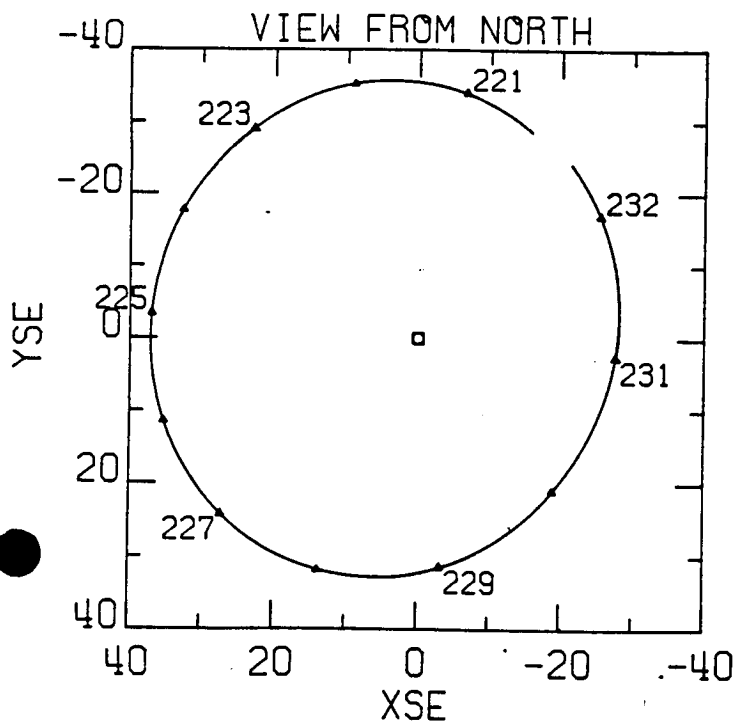
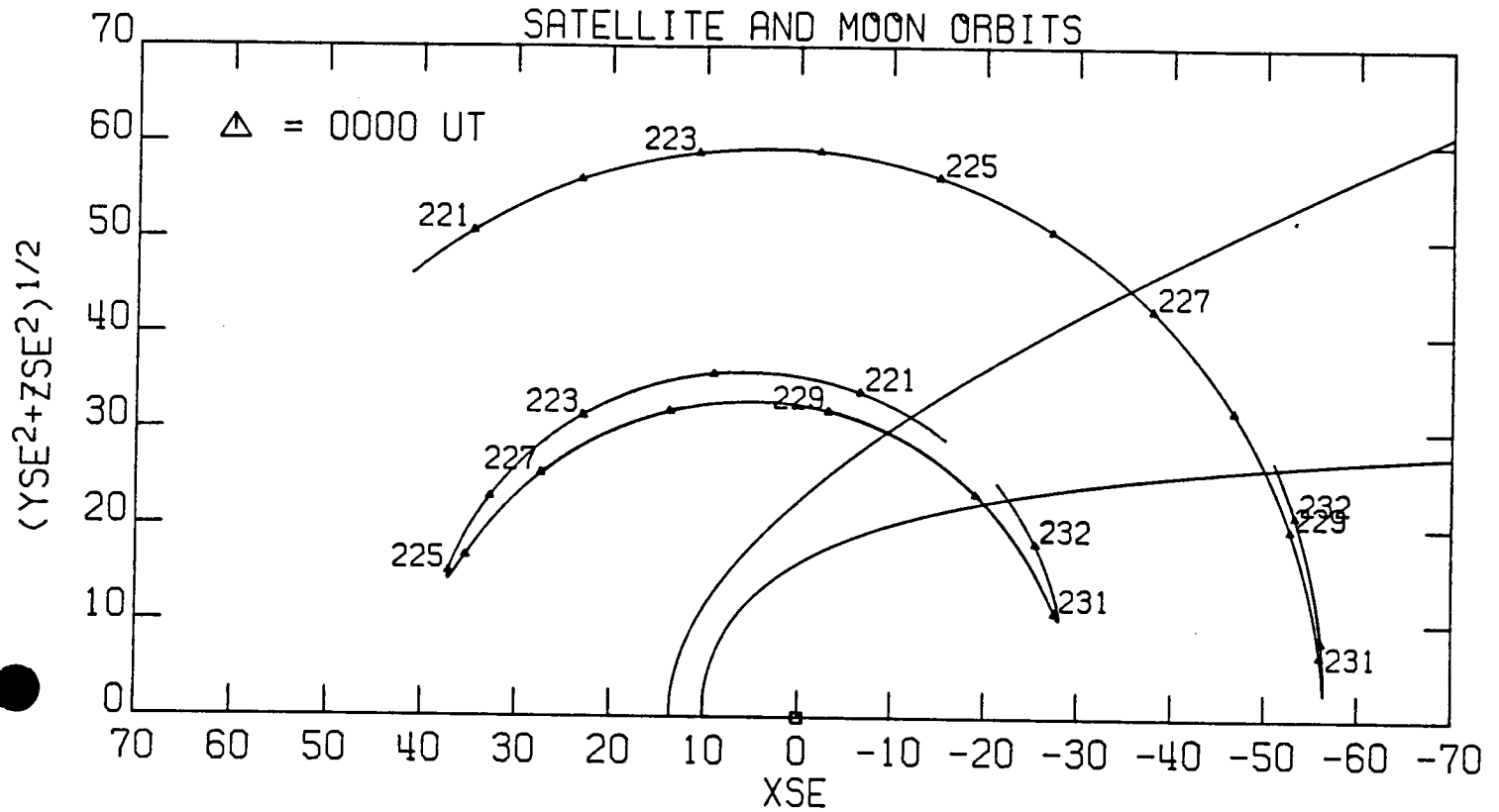


IMP 7 TRAJECTORY.

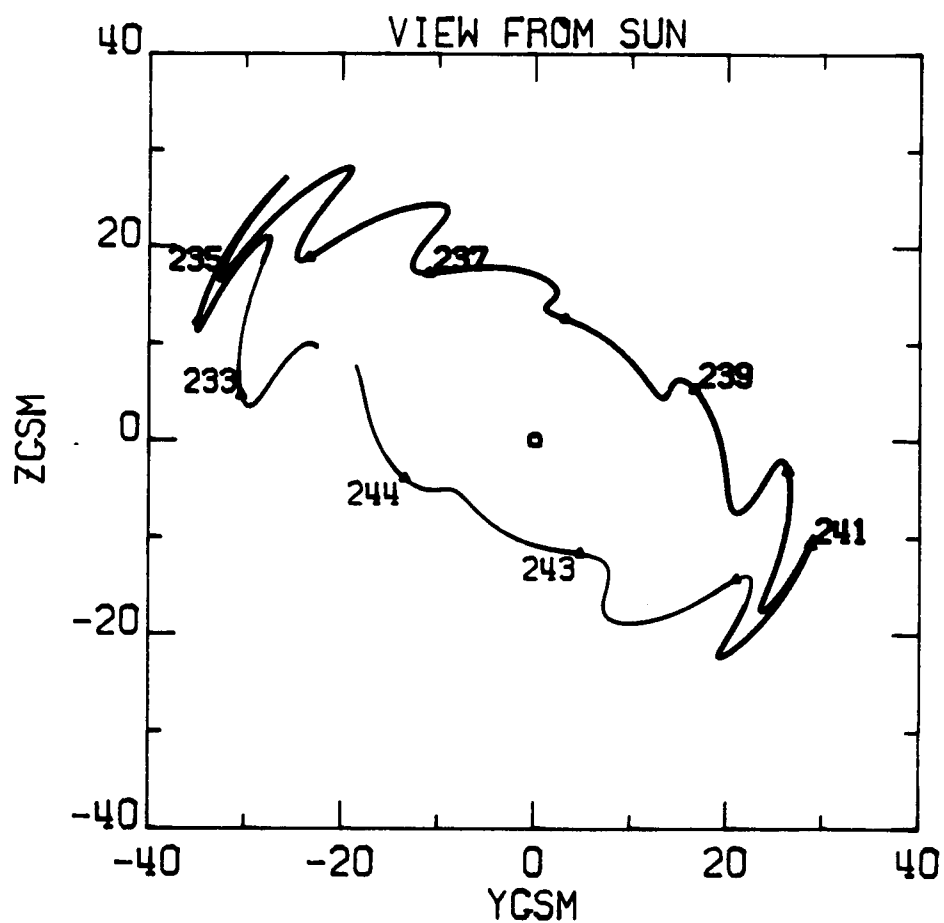
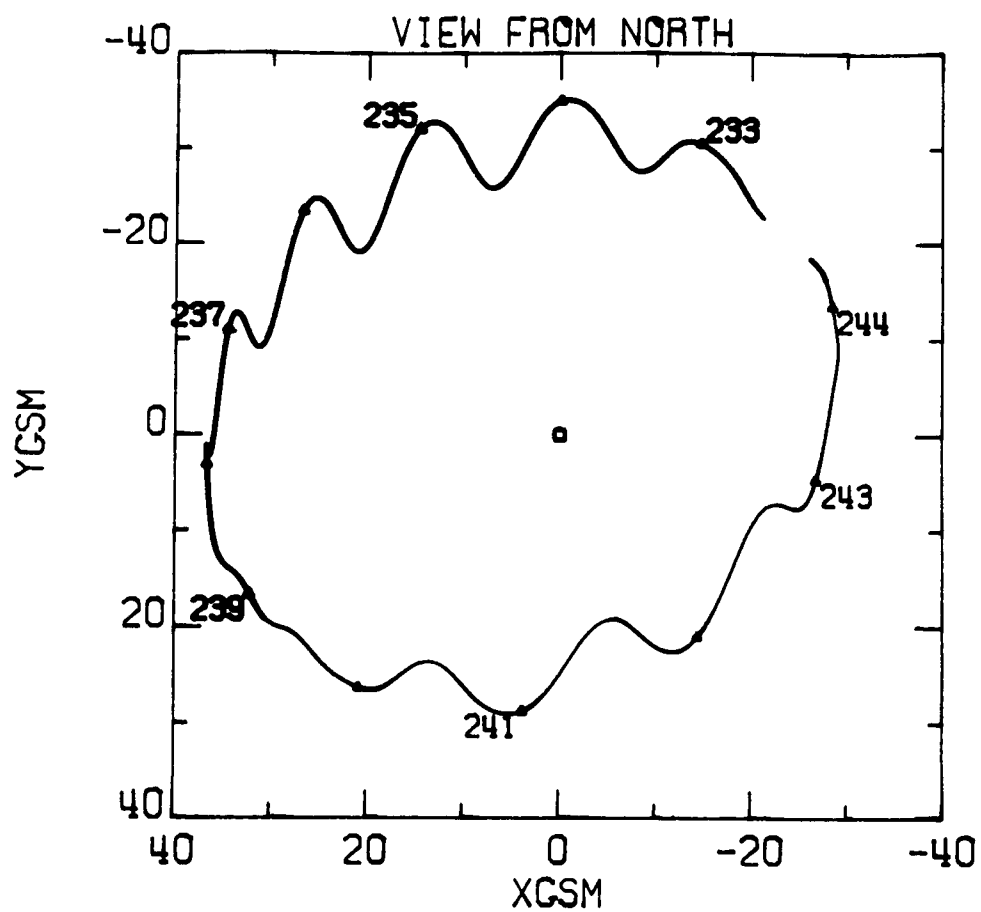
ASCENDING NODE 177

FROM AUG 8 TO AUG 20 1978

DAYS 220 THRU 232



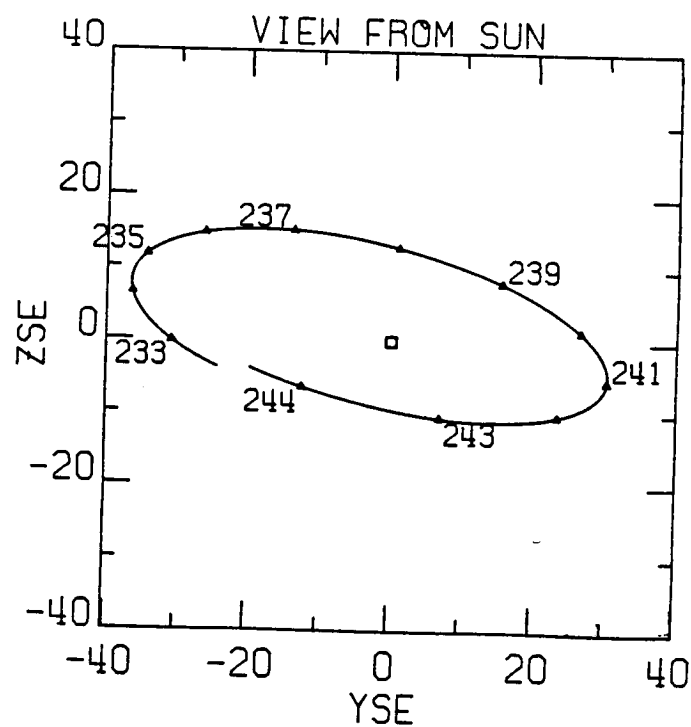
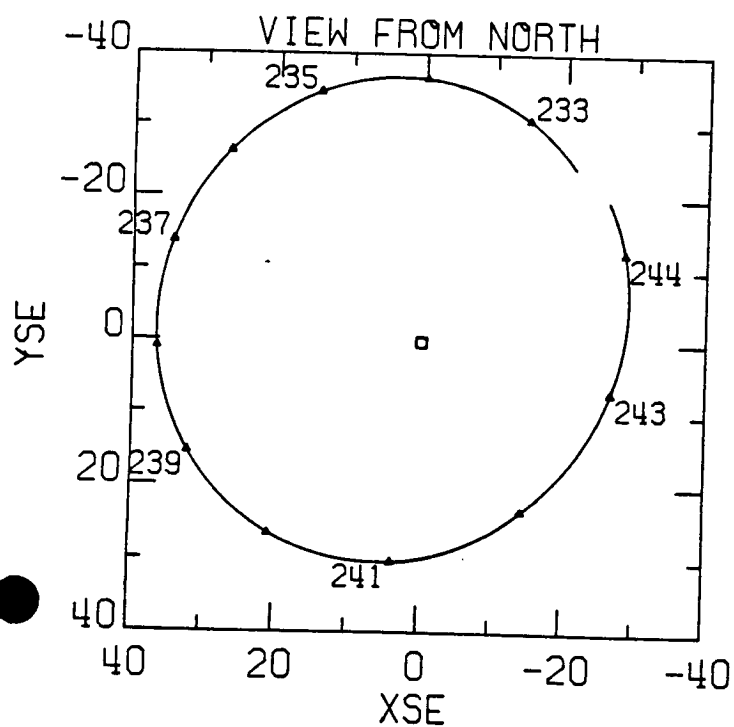
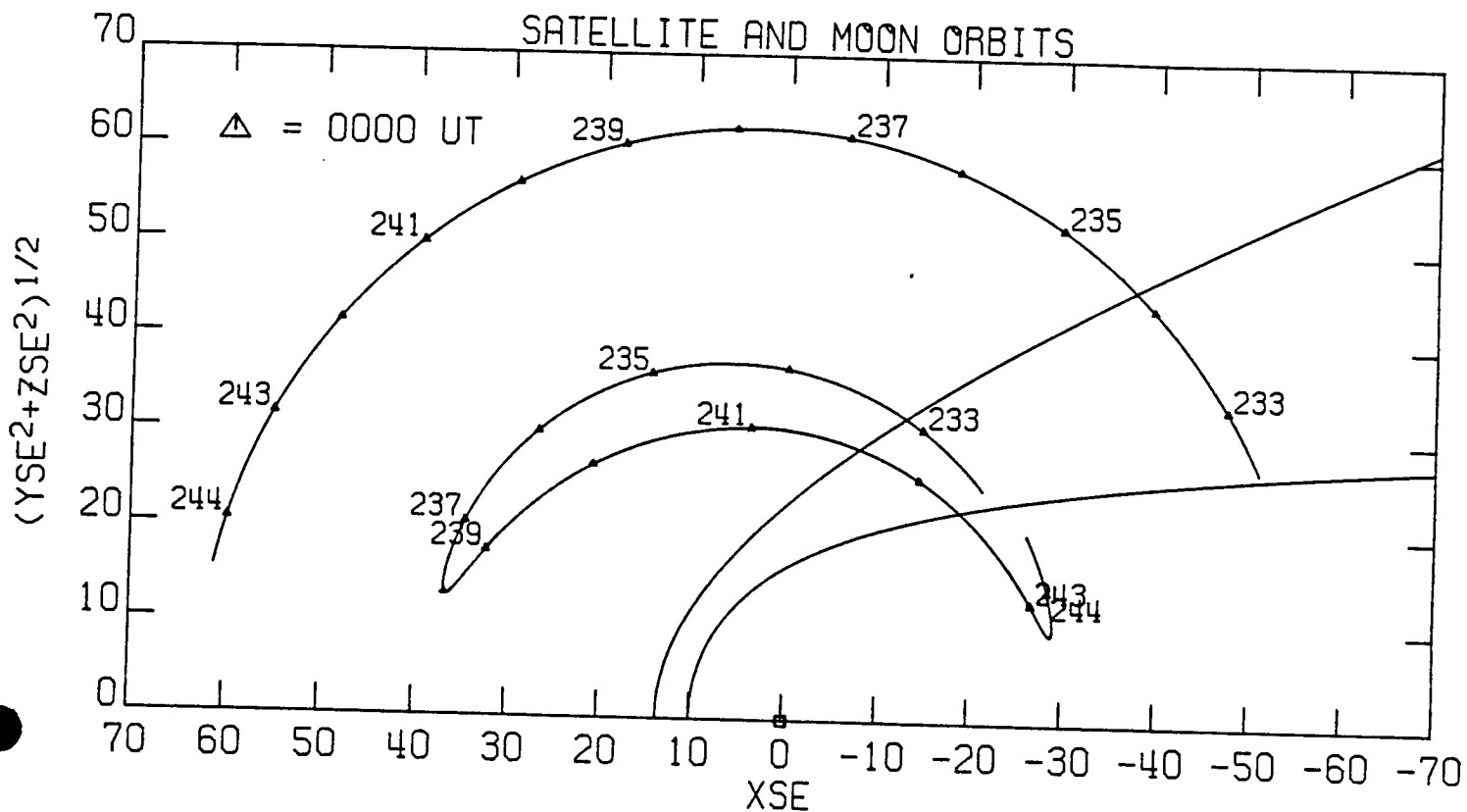
IMP 7 FROM AUG 20 TO SEP 1 1978



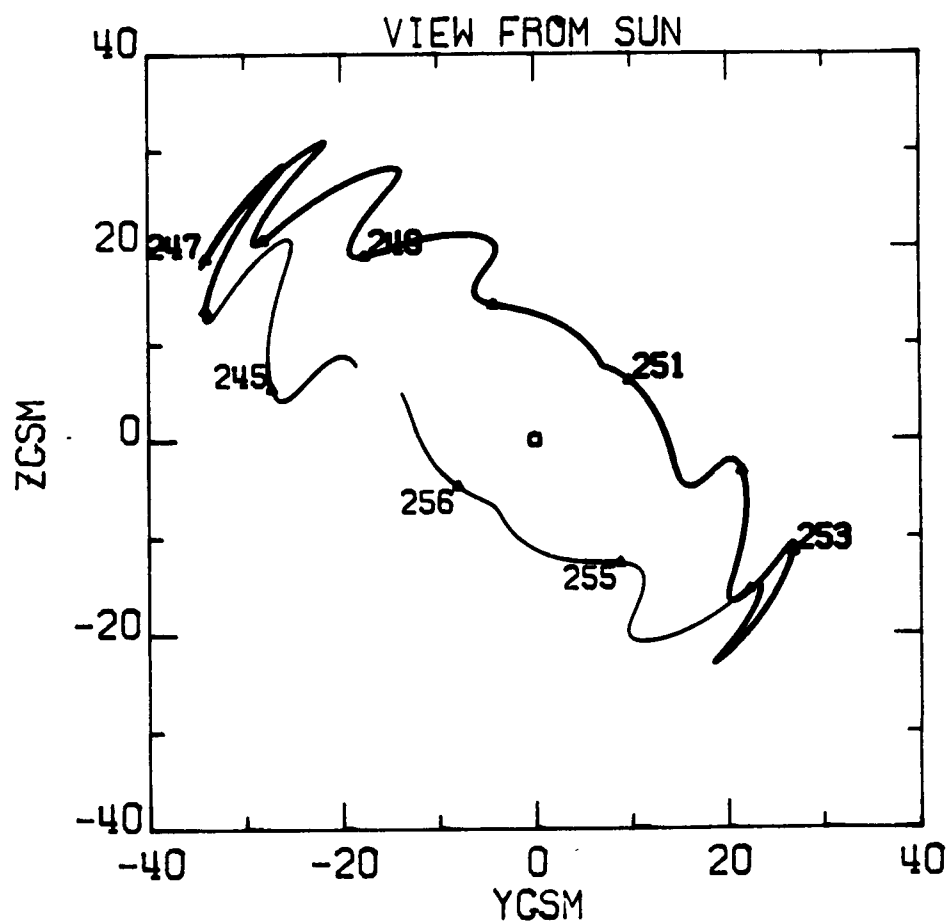
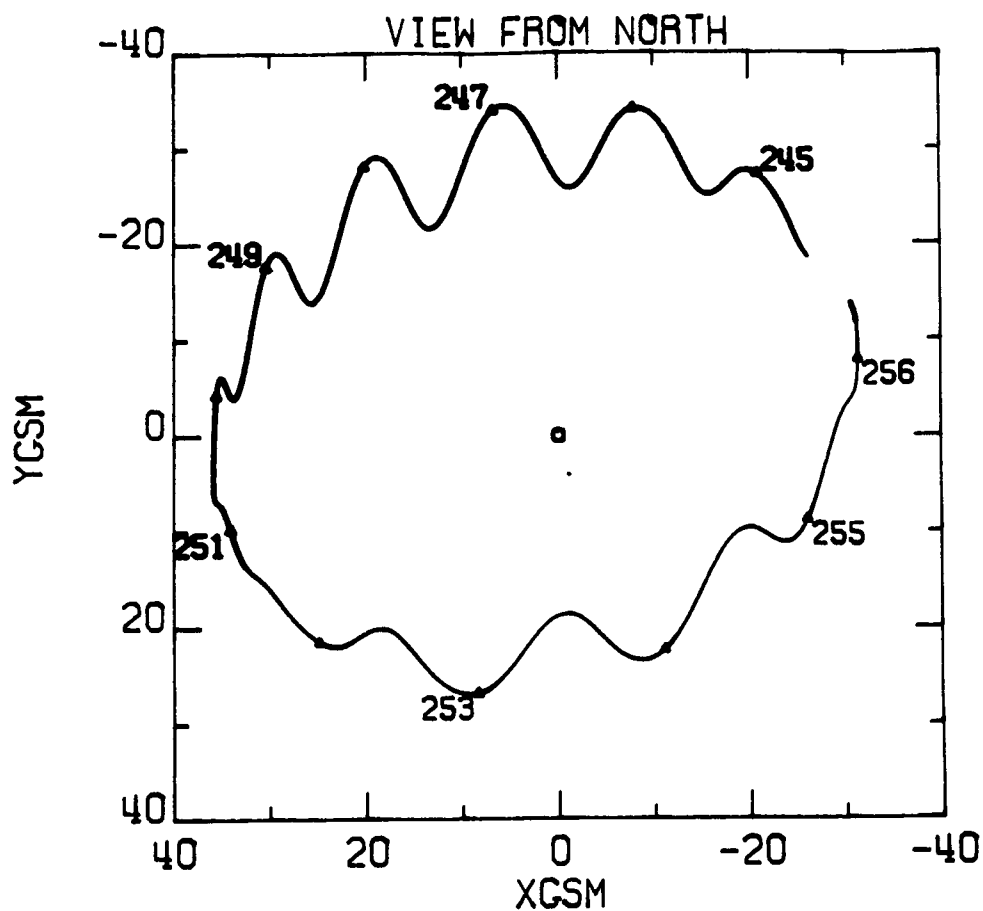
IMP 7 TRAJECTORY. ASCENDING NODE 178

FROM AUG 20 TO SEP 1 1978

DAYS 232 THRU 244



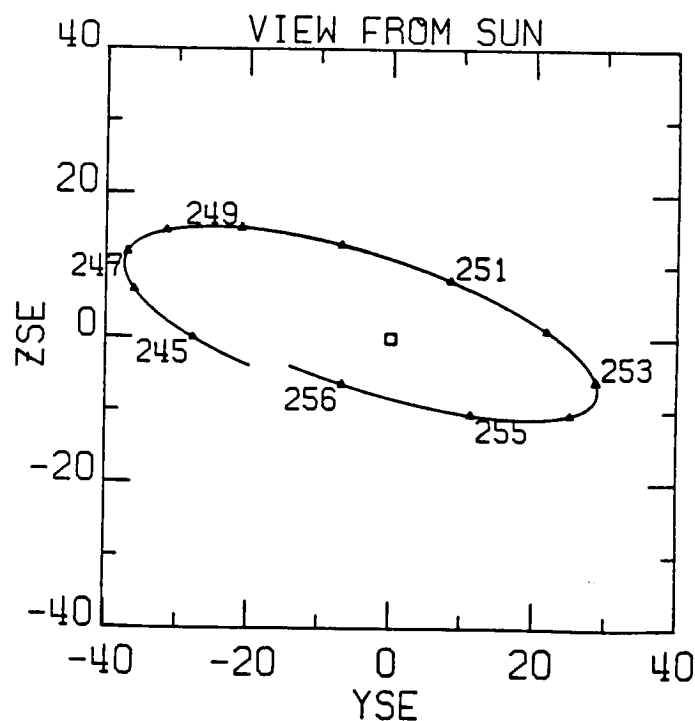
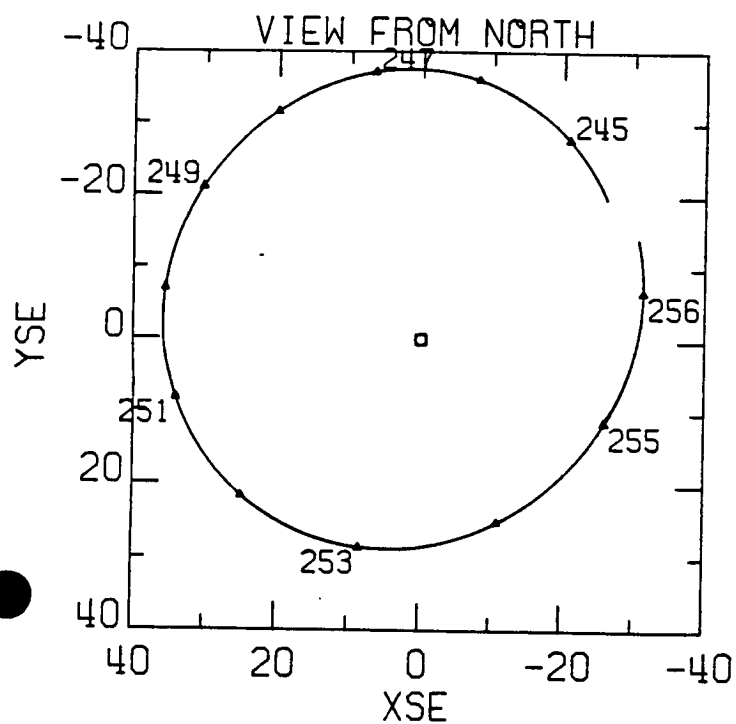
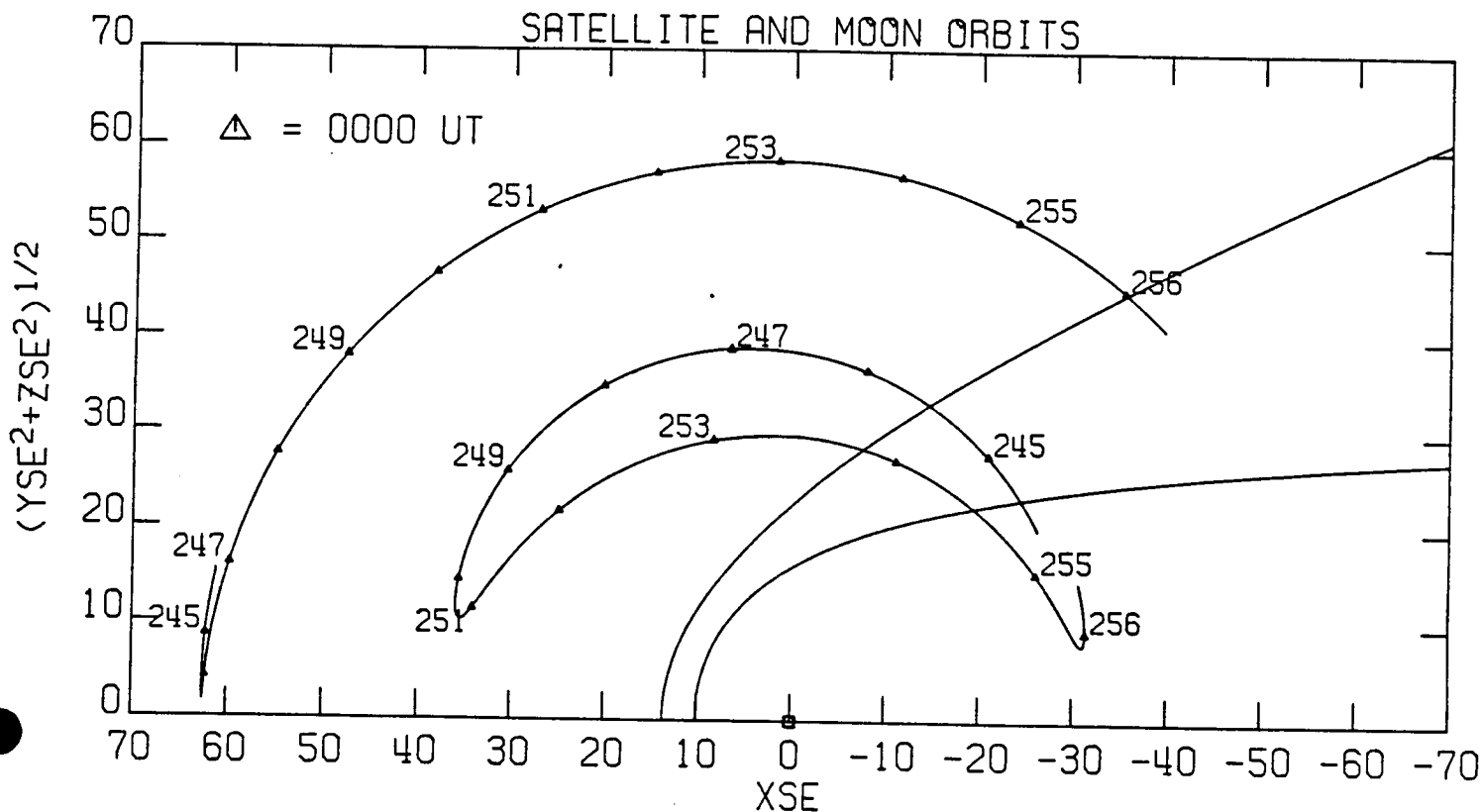
IMP 7 FROM SEP 1 TO SEP 13 1978



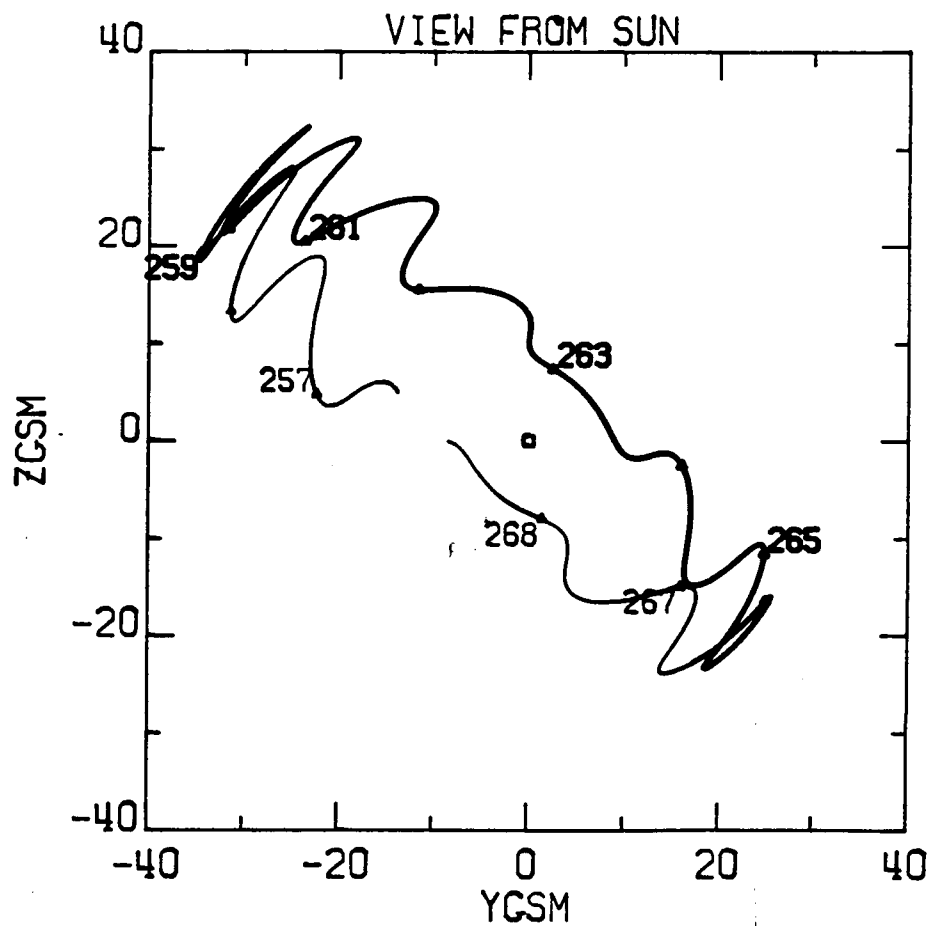
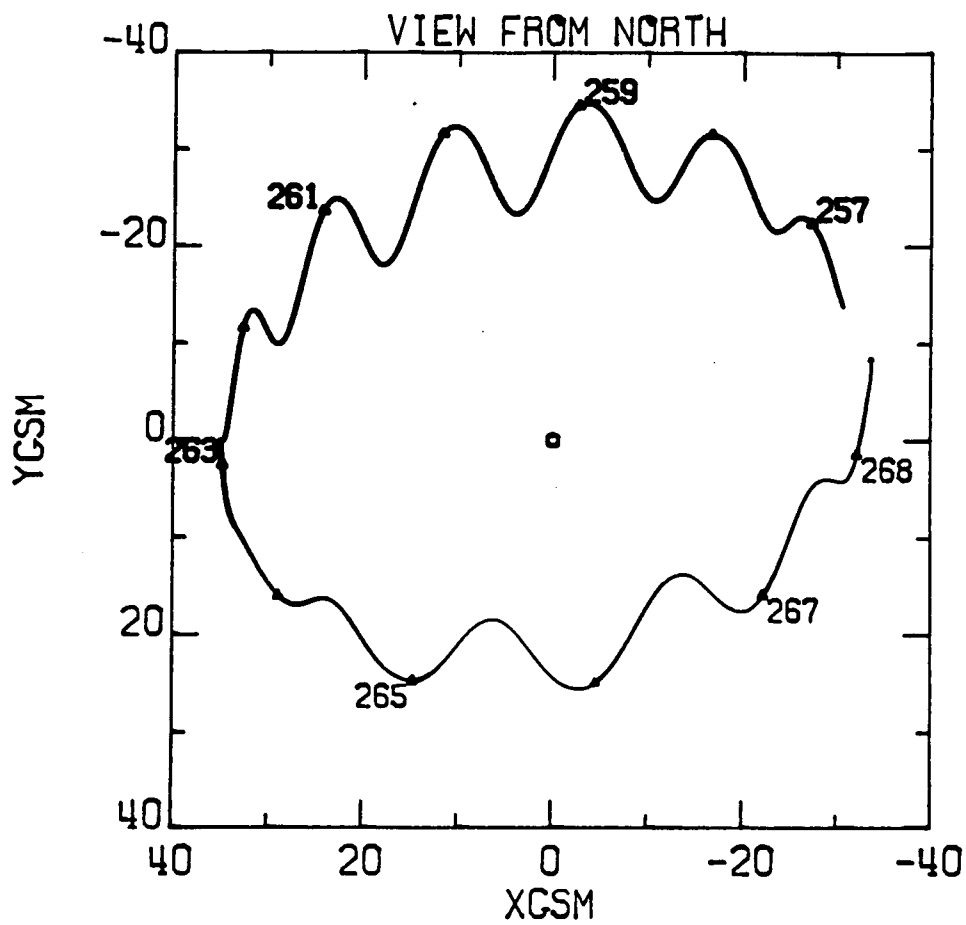
IMP 7 TRAJECTORY. ASCENDING NODE 179

FROM SEP 1 TO SEP 13 1978

DAYS 244 THRU 256



IMP 7 FROM SEP 13 TO SEP 25 1978



IMP 7 TRAJECTORY.

ASCENDING NODE 180

FROM SEP 13 TO SEP 25 1978

DAYS 256 THRU 268

